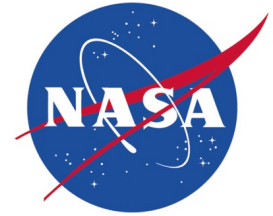


National Aeronautics and  
Space Administration  
*Updated Jan 2023*



## NASA Astronaut Fact Book

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*Exploration is really the essence of the human spirit.*

**Frank Borman**

## PREFACE

(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, seven military men became the nation's first astronauts. The second and third groups chosen included civilians with extensive flying experience. By 1964, requirements changed, and emphasis was placed on academic qualifications; in 1965, six 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, NASA Class 8, was the first of the space shuttle flight crews and the first class with women and minority astronauts. In 2013, the astronaut class was fifty percent women and fifty percent men.

The most recent astronaut candidate group named in December 2021, NASA Class 23, is training for a variety of missions, including performing research on the International Space Station, launching from American soil on spacecraft built by commercial companies, and departing for missions to the Moon with Artemis. The 2021 astronaut candidate class came from more than 12,000 applications. More information about NASA's astronauts can be found at [www.nasa.gov/astronauts](http://www.nasa.gov/astronauts).

Since inception, NASA has selected 360 astronaut candidates: 299 men, 61 women; 212 military, 138 civilians; 191 pilots, 159 non-pilots.

As of Jan. 2023, there are 41 active astronauts, 18 management astronauts, 10 astronaut candidates, and 288 former astronauts or payload specialists, including those who have left NASA, and those who are deceased.

The spaceflights 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. Additionally, the payload specialist is a professional in the physical or life sciences or a technician skilled in specific equipment or experimentation that will fly. Selection of a payload specialist for a mission is made by the payload sponsor or customer. For NASA-sponsored spacecraft or experiments requiring a payload specialist, the specialist is nominated by an investigator working group and approved by NASA. Payload specialists for major non-NASA payloads or experiments are selected by the sponsoring organization. Payload specialists do not have to be U.S. citizens. However, they must meet strict NASA health and physical fitness standards. These individuals are included in the "Biographical Sketches."

NASA selects astronauts from a diverse pool of applicants with a wide variety of backgrounds. From the thousands of applications received, only a few are chosen for the intensive astronaut candidate training program. For more information on astronaut selection, please check online at [www.nasa.gov/astronauts](http://www.nasa.gov/astronauts) for the latest information.

Astronaut biographies can be found online at: <https://www.nasa.gov/astronauts>

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## 2.0 LIST OF U.S. ASTRONAUTS

<b>Astronaut</b>	<b>Entry Year</b>	<b>Group</b>	<b># of flights</b>	<b>STATUS</b>
<a href="#">Acaba, Joseph M.</a>	2004	19	3	Active
<a href="#">Adamson, James C.</a>	1984	10	2	Former
<a href="#">Akers, Thomas D.</a>	1987	12	4	Former
<a href="#">Aldrin, Buzz</a>	1963	3	2	Former
<a href="#">Allen, Andrew M.</a>	1987	12	3	Former
<a href="#">Allen, Joseph P.</a>	1967	6	2	Former
<a href="#">Altman, Scott D.</a>	1995	15	4	Former
<a href="#">Anders, William A.</a>	1963	3	1	Former
<a href="#">Anderson, Clayton C.</a>	1998	17	2	Former
<a href="#">Anderson, Michael P.</a>	1995	15	2	Deceased
<a href="#">Antonelli, Dominic A.</a>	2000	18	2	Former
<a href="#">Apt, Jerome, III</a>	1985	11	4	Former
<a href="#">Archambault, Lee J.</a>	1998	17	2	Former
<a href="#">Armstrong, Neil A.</a>	1962	2	2	Deceased
<a href="#">Arnold, Richard R., II</a>	2004	19	2	Management
<a href="#">Ashby, Jeffrey S.</a>	1995	15	3	Former
<a href="#">Auñón-Chancellor, Serena</a>	2009	20	1	Management
<a href="#">Ayers, Nichole</a>	2021	23	0	Candidate
<a href="#">Bagian, James P.</a>	1980	9	2	Former
<a href="#">Baker, Ellen S.</a>	1984	10	3	Former
<a href="#">Baker, Michael A.</a>	1985	11	4	Former
<a href="#">Barratt, Michael R.</a>	2000	18	2	Active
<a href="#">Barron, Kayla</a>	2017	22	1	Active
<a href="#">Barry, Daniel T.</a>	1992	14	3	Former
<a href="#">Bassett, Charles A., II</a>	1963	3	0	Deceased
<a href="#">Bean, Alan L.</a>	1963	3	2	Deceased
<a href="#">Behnken, Robert L.</a>	2000	18	3	Former
<a href="#">Berríos, Marcos G.</a>	2021	23	0	Candidate
<a href="#">Birch, M. Christina</a>	2021	23	0	Candidate
<a href="#">Blaha, John E.</a>	1980	9	5	Former
<a href="#">Bloomfield, Michael J.</a>	1995	15	3	Former
<a href="#">Bluford, Guion S., Jr.</a>	1978	8	4	Former
<a href="#">Bobko, Karol J.</a>	1969	7	3	Former
<a href="#">Boe, Eric A.</a>	2000	18	2	Active
<a href="#">Bolden, Charles F., Jr.</a>	1980	9	4	Former
<a href="#">Borman, Frank</a>	1962	2	2	Former
<a href="#">Bowen, Stephen G.</a>	2000	18	3	Active
<a href="#">Bowersox, Kenneth D.</a>	1987	12	5	Management
<a href="#">Brady, Charles E., Jr.</a>	1992	14	1	Deceased
<a href="#">Brand, Vance D.</a>	1966	5	4	Former
<a href="#">Brandenstein, Daniel C.</a>	1978	8	4	Former
<a href="#">Bresnik, Randolph J.</a>	2004	19	2	Active

<a href="#">Bridges, Roy D., Jr.</a>	1980	9	1	Former
<a href="#">Brown, Curtis L., Jr.</a>	1987	12	6	Former
<a href="#">Brown, David M.</a>	1996	16	1	Deceased
<a href="#">Brown, Mark N.</a>	1984	10	2	Former
<a href="#">Buchli, James F.</a>	1978	8	4	Former
<a href="#">Burnham, Deniz M.</a>	2021	23	0	Candidate
<a href="#">Bull, John S.</a>	1966	5	0	Deceased
<a href="#">Burbank, Daniel C.</a>	1996	16	3	Former
<a href="#">Bursch, Daniel W.</a>	1990	13	4	Former
<a href="#">Cabana, Robert D.</a>	1985	11	4	Management
<a href="#">Cagle, Yvonne D.</a>	1996	16	0	Management
<a href="#">Caldeiro, Fernando</a>	1996	16	0	Deceased
<a href="#">Caldwell Dyson, Tracy</a>	1998	17	2	Active
<a href="#">Camarda, Charles J.</a>	1996	16	1	Management
<a href="#">Cameron, Kenneth D.</a>	1984	10	3	Former
<a href="#">Cardman, Zena</a>	2017	22	0	Active
<a href="#">Carey, Duane G.</a>	1996	16	1	Former
<a href="#">Carpenter, M. Scott</a>	1959	1	1	Deceased
<a href="#">Carr, Gerald P.</a>	1966	5	1	Deceased
<a href="#">Carter, Manley Lanier, Jr.</a>	1984	10	1	Deceased
<a href="#">Casper, John H.</a>	1984	10	4	Former
<a href="#">Cassada, Josh A.</a>	2013	21	0	Active
<a href="#">Cassidy, Christopher J.</a>	2004	19	3	Former
<a href="#">Cernan, Eugene A.</a>	1963	3	3	Deceased
<a href="#">Chaffee, Roger B.</a>	1963	3	0	Deceased
<a href="#">Chamitoff, Gregory E.</a>	1998	17	2	Former
<a href="#">Chang-Diaz, Franklin R.</a>	1980	9	7	Former
<a href="#">Chapman, Philip K.</a>	1967	6	0	Deceased
<a href="#">Chari, Raja</a>	2017	22	1	Active
<a href="#">Chawla, Kalpana</a>	1995	15	2	Deceased
<a href="#">Chiao, Leroy</a>	1990	13	4	Former
<a href="#">Chilton, Kevin P.</a>	1987	12	3	Former
<a href="#">Clark, Laurel B.</a>	1996	16	1	Deceased
<a href="#">Cleave, Mary L.</a>	1980	9	2	Former
<a href="#">Clifford, Michael R.</a>	1990	13	3	Deceased
<a href="#">Coats, Michael L.</a>	1978	8	3	Former
<a href="#">Cockrell, Kenneth D.</a>	1990	13	5	Former
<a href="#">Coleman, Catherine G.</a>	1992	14	3	Former
<a href="#">Collins, Eileen M.</a>	1990	13	4	Former
<a href="#">Collins, Michael</a>	1963	3	2	Deceased
<a href="#">Conrad, Charles, Jr.</a>	1962	2	4	Deceased
<a href="#">Cooper, L. Gordon, Jr.</a>	1959	1	2	Deceased
<a href="#">Covey, Richard O.</a>	1978	8	4	Former
<a href="#">Creamer, Timothy J.</a>	1998	17	1	Management
<a href="#">Creighton, John O.</a>	1978	8	3	Former

<a href="#">Crippen, Robert L.</a>	1969	7	4	Former
<a href="#">Culbertson, Frank L., Jr.</a>	1984	10	3	Former
<a href="#">Cunningham, Walter</a>	1963	3	1	Deceased
<a href="#">Curbeam, Robert L., Jr.</a>	1995	15	3	Former
<a href="#">Currie-Gregg, Nancy J.</a>	1990	13	4	Former
<a href="#">Davis, N. Jan</a>	1987	12	3	Former
<a href="#">Delaney, Luke</a>	2021	23	0	Candidate
<a href="#">Dominick, Matthew</a>	2017	22	0	Active
<a href="#">Douglas, Andre</a>	2021	23	0	Candidate
<a href="#">Drew, Alvin B., Jr.</a>	2000	18	2	Management
<a href="#">Duffy, Brian</a>	1985	11	4	Former
<a href="#">Duke, Charles M., Jr.</a>	1966	5	1	Former
<a href="#">Dunbar, Bonnie J.</a>	1980	9	5	Former
<a href="#">Dutton, James P., Jr.</a>	2004	19	1	Former
<a href="#">Edwards, Joe F., Jr.</a>	1995	15	1	Former
<a href="#">Eisele, Donn F.</a>	1963	3	1	Deceased
<a href="#">England, Anthony W.</a>	1967	6	1	Former
<a href="#">Engle, Joe H.</a>	1966	5	2	Former
<a href="#">Epps, Jeanette J.</a>	2009	20	0	Active
<a href="#">Evans, Ronald E., Jr.</a>	1966	5	1	Deceased
<a href="#">Fabian, John M.</a>	1978	8	2	Former
<a href="#">Ferguson, Christopher J.</a>	1998	17	3	Former
<a href="#">Feustel, Andrew J.</a>	2000	18	3	Active
<a href="#">Fincke, E. Michael</a>	1996	16	3	Active
<a href="#">Fischer, Jack D.</a>	2009	20	1	Former
<a href="#">Fisher, Anna L.</a>	1978	8	1	Former
<a href="#">Fisher, William F.</a>	1980	9	1	Former
<a href="#">Foale, C. Michael</a>	1987	12	6	Former
<a href="#">Ford, Kevin A.</a>	2000	18	2	Former
<a href="#">Foreman, Michael J.</a>	1998	17	2	Former
<a href="#">Forrester, Patrick G.</a>	1996	16	3	Management
<a href="#">Fossum, Michael E.</a>	1998	17	3	Former
<a href="#">Freeman, Theodore C.</a>	1963	3	0	Deceased
<a href="#">Frick, Stephen N.</a>	1996	16	2	Former
<a href="#">Fullerton, Charles G.</a>	1969	7	2	Deceased
<a href="#">Garan, Ronald J., Jr.</a>	2000	18	2	Former
<a href="#">Gardner, Dale A.</a>	1978	8	2	Deceased
<a href="#">Gardner, Guy S.</a>	1980	9	2	Former
<a href="#">Garriott, Owen K.</a>	1965	4	2	Deceased
<a href="#">Gemar, Charles D.</a>	1985	11	3	Former
<a href="#">Gernhardt, Michael L.</a>	1992	14	4	Former
<a href="#">Gibson, Edward G.</a>	1965	4	1	Former
<a href="#">Gibson, Robert L.</a>	1978	8	5	Former
<a href="#">Givens, Edward G., Jr.</a>	1966	5	0	Deceased
<a href="#">Glenn, John H., Jr.</a>	1959	1	2	Deceased
<a href="#">Glover, Victor J.</a>	2013	21	1	Active

<a href="#">Godwin, Linda M.</a>	1985	11	4	Former
<a href="#">Good, Michael T.</a>	2000	18	2	Former
<a href="#">Gordon, Richard F., Jr.</a>	1963	3	2	Deceased
<a href="#">Gorie, Dominic L.</a>	1995	15	4	Former
<a href="#">Grabe, Ronald J.</a>	1980	9	4	Former
<a href="#">Graveline, Duane E.</a>	1965	4	0	Deceased
<a href="#">Gregory, Frederick D.</a>	1978	8	3	Former
<a href="#">Gregory, William G.</a>	1990	13	1	Former
<a href="#">Griggs, S. David</a>	1978	8	1	Deceased
<a href="#">Grissom, Virgil I.</a>	1959	1	2	Deceased
<a href="#">Grunsfeld, John M.</a>	1992	14	5	Former
<a href="#">Gutierrez, Sidney M.</a>	1984	10	2	Former
<a href="#">Hague, Tyler N.</a>	2013	21	1	Active
<a href="#">Haise, Fred W., Jr.</a>	1966	5	1	Former
<a href="#">Halsell, James D., Jr.</a>	1990	13	5	Former
<a href="#">Ham, Kenneth T.</a>	1998	17	2	Former
<a href="#">Hammond, L. Blaine, Jr.</a>	1984	10	2	Former
<a href="#">Harbaugh, Gregory J.</a>	1987	12	4	Former
<a href="#">Harris, Bernard A., Jr.</a>	1990	13	2	Former
<a href="#">Hart, Terry J.</a>	1978	8	1	Former
<a href="#">Hartsfield, Henry W., Jr.</a>	1969	7	3	Deceased
<a href="#">Hathaway, Jack</a>	2021	23	0	Candidate
<a href="#">Hauck, Frederick H.</a>	1978	8	3	Former
<a href="#">Hawley, Steven A.</a>	1978	8	5	Former
<a href="#">Helms, Susan J.</a>	1990	13	5	Former
<a href="#">Henize, Karl G.</a>	1967	6	1	Deceased
<a href="#">Henricks, Terence T.</a>	1985	11	4	Former
<a href="#">Hernandez, Jose M.</a>	2004	19	1	Former
<a href="#">Herrington, John B.</a>	1996	16	1	Former
<a href="#">Hieb, Richard J.</a>	1985	11	3	Former
<a href="#">Higginbotham, Joan E.</a>	1996	16	1	Former
<a href="#">Hilmers, David C.</a>	1980	9	4	Former
<a href="#">Hines, Robert T.</a>	2017	22	1	Active
<a href="#">Hire, Kathryn P.</a>	1995	15	2	Former
<a href="#">Hobaugh, Charles O.</a>	1996	16	3	Former
<a href="#">Hoburg, Warren</a>	2017	22	0	Active
<a href="#">Hoffman, Jeffrey A.</a>	1978	8	5	Former
<a href="#">Holmquest, Donald L.</a>	1967	6	0	Former
<a href="#">Hopkins, Michael S.</a>	2009	20	2	Active
<a href="#">Horowitz, Scott J.</a>	1992	14	4	Former
<a href="#">Hurley, Douglas G.</a>	2000	18	3	Former
<a href="#">Husband, Rick D.</a>	1995	15	2	Deceased
<a href="#">Irwin, James B.</a>	1966	5	1	Deceased
<a href="#">Ivins, Marsha S.</a>	1984	10	5	Former
<a href="#">Jemison, Mae C.</a>	1987	12	1	Former
<a href="#">Jernigan, Tamara E.</a>	1985	11	5	Former

<a href="#">Jett, Brent W.</a>	1992	14	4	Former
<a href="#">Johnson, Gregory C.</a>	1998	17	1	Former
<a href="#">Johnson, Gregory H.</a>	1998	17	2	Former
<a href="#">Jones, Thomas D.</a>	1990	13	4	Former
<a href="#">Kavandi, Janet L.</a>	1995	15	3	Former
<a href="#">Kelly, James M.</a>	1996	16	2	Management
<a href="#">Kelly, Mark E.</a>	1996	16	4	Former
<a href="#">Kelly, Scott J.</a>	1996	16	3	Former
<a href="#">Kerwin, Joseph P.</a>	1965	4	1	Former
<a href="#">Kilrain (Still), Susan L.</a>	1995	15	2	Former
<a href="#">Kim, Jonny</a>	2017	22	0	Active
<a href="#">Kimbrough, Robert Shane</a>	2004	19	3	Former
<a href="#">Koch, Christina Hammock</a>	2013	21	1	Active
<a href="#">Kopra, Timothy L.</a>	2000	18	1	Former
<a href="#">Kregel, Kevin R.</a>	1992	14	4	Former
<a href="#">Lawrence, Wendy B.</a>	1992	14	4	Former
<a href="#">Lee, Mark C.</a>	1984	10	4	Former
<a href="#">Leestma, David C.</a>	1980	9	3	Former
<a href="#">Lenoir, William B.</a>	1967	6	1	Deceased
<a href="#">Lind, Don L.</a>	1966	5	1	Former
<a href="#">Lindgren, Kjell N.</a>	2009	20	2	Active
<a href="#">Lindsey, Steven W.</a>	1995	15	5	Former
<a href="#">Linenger, Jerry M.</a>	1992	14	2	Former
<a href="#">Linnehan, Richard M.</a>	1992	14	4	Management
<a href="#">Llewellyn, John A.</a>	1967	6	0	Deceased
<a href="#">Lockhart, Paul S.</a>	1996	16	2	Former
<a href="#">Lopez-Alegria, Michael E.</a>	1992	14	3	Former
<a href="#">Loria, Christopher J.</a>	1996	16	0	Former
<a href="#">Lounge, J. Mike</a>	1980	9	3	Deceased
<a href="#">Lousma, Jack R.</a>	1966	5	2	Former
<a href="#">Love, Stanley G.</a>	1998	17	1	Management
<a href="#">Lovell, James A., Jr.</a>	1962	2	4	Former
<a href="#">Low, G. David</a>	1984	10	3	Deceased
<a href="#">Lu, Edward T.</a>	1995	15	3	Former
<a href="#">Lucid, Shannon W.</a>	1978	8	5	Former
<a href="#">Magnus, Sandra H.</a>	1996	16	3	Former
<a href="#">Mann, Nicole Aunapu</a>	2013	21	0	Active
<a href="#">Marshburn, Thomas H.</a>	2004	19	3	Former
<a href="#">Massimino, Michael J.</a>	1996	16	2	Former
<a href="#">Mastracchio, Richard A.</a>	1996	16	3	Former
<a href="#">Mattingly, Thomas K., II</a>	1966	5	3	Former
<a href="#">McArthur, K. Megan</a>	2000	18	2	Active
<a href="#">McArthur, William S., Jr.</a>	1990	3	4	Former
<a href="#">McBride, Jon A.</a>	1978	8	1	Former
<a href="#">McCandless, Bruce, II</a>	1966	5	2	Deceased
<a href="#">McClain, Anne C.</a>	2013	21	1	Active



<a href="#">McCool, William C.</a>	1996	16	1	Deceased
<a href="#">McCulley, Michael J.</a>	1984	10	1	Former
<a href="#">McDivitt, James A.</a>	1984	2	2	Deceased
<a href="#">McMonagle, Donald R.</a>	1987	12	3	Former
<a href="#">McNair, Ronald E.</a>	1978	8	1	Deceased
<a href="#">Meade, Carl J.</a>	1985	11	3	Former
<a href="#">Meir, Jessica U.</a>	2013	21	1	Active
<a href="#">Melnick, Bruce E.</a>	1987	12	2	Former
<a href="#">Melroy, Pamela A.</a>	1995	15	3	Management
<a href="#">Melvin, Leland D.</a>	1998	17	2	Former
<a href="#">Menon, Anil S.</a>	2021	23	0	Candidate
<a href="#">Metcalf-Lindenburger, Dorothy</a>	2004	19	1	Former
<a href="#">Michel, F. Curtis</a>	1965	4	0	Deceased
<a href="#">Mitchell, Edgar D.</a>	1966	5	1	Deceased
<a href="#">Moghbeli, Jasmin</a>	2017	22	0	Active
<a href="#">Morgan, Andrew R.</a>	2013	21	1	Active
<a href="#">Morgan, Barbara R.</a>	1998	17	1	Former
<a href="#">Morin, Lee M.</a>	1996	16	1	Management
<a href="#">Mullane, Richard M.</a>	1978	8	3	Former
<a href="#">Musgrave, Story</a>	1967	6	6	Former
<a href="#">Nagel, Steven R.</a>	1978	8	4	Deceased
<a href="#">Nelson, George D.</a>	1978	8	3	Former
<a href="#">Newman, James H.</a>	1990	13	4	Former
<a href="#">Noriega, Carlos I.</a>	1995	15	2	Former
<a href="#">Nowak, Lisa M.</a>	1996	16	1	Former
<a href="#">Nyberg, Karen L.</a>	2000	18	1	Former
<a href="#">O'Connor, Bryan D.</a>	1980	9	2	Former
<a href="#">O'Hara, Loral</a>	2017	22	0	Active
<a href="#">O'Leary, Brian T.</a>	1967	6	0	Deceased
<a href="#">Ochoa, Ellen</a>	1990	13	4	Former
<a href="#">Oefelein, William A.</a>	1998	17	1	Former
<a href="#">Olivas, John D.</a>	1998	17	2	Former
<a href="#">Onizuka, Ellison S.</a>	1978	8	1	Deceased
<a href="#">Oswald, Stephen S.</a>	1985	11	3	Former
<a href="#">Overmyer, Robert F.</a>	1969	7	2	Deceased
<a href="#">Parazynski, Scott E.</a>	1992	14	5	Former
<a href="#">Parker, Robert A.</a>	1967	6	2	Former
<a href="#">Patrick, Nicholas J. M.</a>	1998	17	2	Former
<a href="#">Peterson, Donald H.</a>	1969	7	1	Deceased
<a href="#">Pettit, Donald R.</a>	1996	16	3	Active
<a href="#">Phillips, John L.</a>	1996	16	3	Former
<a href="#">Pogue, William R.</a>	1966	5	1	Deceased
<a href="#">Poindexter, Alan G.</a>	1998	17	2	Deceased
<a href="#">Polansky, Mark L.</a>	1996	16	3	Former
<a href="#">Precourt, Charles J.</a>	1990	13	4	Former

<a href="#">Readdy, William F.</a>	1987	12	3	Former
<a href="#">Reightler, Kenneth S., Jr.</a>	1987	12	2	Former
<a href="#">Reilly, James F., II</a>	1995	15	3	Former
<a href="#">Reisman, Garrett E.</a>	1998	17	2	Former
<a href="#">Resnik, Judith A.</a>	1978	8	1	Deceased
<a href="#">Richards, Paul W.</a>	1996	16	1	Management
<a href="#">Richards, Richard N.</a>	1980	9	4	Former
<a href="#">Ride, Sally K.</a>	1978	8	2	Deceased
<a href="#">Robertson, Patricia Hilliard</a>	1998	17	0	Deceased
<a href="#">Robinson, Stephen K.</a>	1995	15	4	Former
<a href="#">Rominger, Kent V.</a>	1992	14	5	Former
<a href="#">Roosa, Stuart A.</a>	1966	5	1	Deceased
<a href="#">Ross, Jerry L.</a>	1980	9	7	Former
<a href="#">Rubins, Kathleen (Kate)</a>	2009	20	2	Active
<a href="#">Rubio, Frank</a>	2017	22	0	Active
<a href="#">Runco, Mario, Jr.</a>	1987	12	3	Former
<a href="#">Satcher, Robert L., Jr.</a>	2004	19	1	Former
<a href="#">Schirra, Walter M., Jr.</a>	1959	1	3	Deceased
<a href="#">Schmitt, Harrison H.</a>	1965	4	1	Former
<a href="#">Schweickart, Russell L.</a>	1963	3	1	Former
<a href="#">Scobee, Francis R.</a>	1978	8	1	Deceased
<a href="#">Scott, David R.</a>	1963	3	3	Former
<a href="#">Scott, Winston E.</a>	1992	14	2	Former
<a href="#">Searfoss, Richard A.</a>	1990	13	3	Deceased
<a href="#">Seddon, Margaret Rhea</a>	1978	8	3	Former
<a href="#">See, Elliot M., Jr.</a>	1962	2	0	Deceased
<a href="#">Sega, Ronald M.</a>	1990	13	2	Former
<a href="#">Sellers, Piers J.</a>	1996	16	3	Deceased
<a href="#">Shaw, Brewster H., Jr.</a>	1978	8	3	Former
<a href="#">Shepard, Alan B., Jr.</a>	1959	1	2	Deceased
<a href="#">Shepherd, William M.</a>	1984	10	4	Former
<a href="#">Shriver, Loren J.</a>	1978	8	3	Former
<a href="#">Slayton, Donald K.</a>	1959	1	1	Deceased
<a href="#">Smith, Michael J.</a>	1980	9	0	Deceased
<a href="#">Smith, Steven L.</a>	1992	14	4	Former
<a href="#">Spring, Sherwood C.</a>	1980	9	1	Former
<a href="#">Springer, Robert C.</a>	1980	9	2	Former
<a href="#">Stafford, Thomas P.</a>	1962	2	4	Former
<a href="#">Stefanyshyn-Piper, H. M.</a>	1996	16	2	Former
<a href="#">Stewart, Robert L.</a>	1978	8	2	Former
<a href="#">Stott, Nicole P.</a>	2000	18	2	Former
<a href="#">Sturckow, Frederick W.</a>	1995	15	4	Former
<a href="#">Sullivan, Kathryn D.</a>	1978	8	3	Former
<a href="#">Swanson, Steven R.</a>	1998	17	2	Former
<a href="#">Swigert, John L., Jr.</a>	1966	5	1	Deceased
<a href="#">Tani, Daniel M.</a>	1996	16	2	Former

<a href="#">Tanner, Joseph R.</a>	1992	14	4	Former
<a href="#">Thagard, Norman E.</a>	1978	8	5	Former
<a href="#">Thomas, Andrew S. W.</a>	1992	14	4	Former
<a href="#">Thomas, Donald A.</a>	1990	13	4	Former
<a href="#">Thorne, Stephen D.</a>	1985	11	0	Deceased
<a href="#">Thornton, Kathryn C.</a>	1984	10	4	Former
<a href="#">Thornton, William E.</a>	1967	6	2	Deceased
<a href="#">Thuot, Pierre J.</a>	1985	11	3	Former
<a href="#">Tingle, Scott D.</a>	2009	20	1	Active
<a href="#">Truly, Richard H.</a>	1969	7	2	Former
<a href="#">Van Hoften, James D.</a>	1978	8	2	Former
<a href="#">Vande Hei, Mark T.</a>	2009	20	2	Active
<a href="#">Veach, Charles Lacy</a>	1984	10	2	Deceased
<a href="#">Virts, Terry W., Jr.</a>	2000	18	1	Former
<a href="#">Voss, James S.</a>	1987	12	5	Former
<a href="#">Voss, Janice E.</a>	1990	13	5	Deceased
<a href="#">Walheim, Rex J.</a>	1996	16	3	Former
<a href="#">Walker, David M.</a>	1978	8	4	Deceased
<a href="#">Walker, Shannon</a>	2004	19	2	Active
<a href="#">Walz, Carl E.</a>	1990	13	4	Former
<a href="#">Watkins, Jessica</a>	2017	22	1	Active
<a href="#">Weber, Mary E.</a>	1992	14	2	Former
<a href="#">Weitz, Paul J.</a>	1966	5	2	Deceased
<a href="#">Wetherbee, James D.</a>	1984	10	6	Former
<a href="#">Wheelock, Douglas H.</a>	1998	17	2	Active
<a href="#">White, Edward H., II</a>	1962	2	1	Deceased
<a href="#">Whitson, Peggy A.</a>	1996	16	2	Former
<a href="#">Wilcutt, Terrence W.</a>	1990	13	4	Management
<a href="#">Williams, Christopher L.</a>	2021	23	0	Candidate
<a href="#">Williams, Clifton C., Jr.</a>	1963	3	0	Deceased
<a href="#">Williams, Donald E.</a>	1978	8	2	Deceased
<a href="#">Williams, Jeffrey N.</a>	1996	16	4	Management
<a href="#">Williams, Sunita L.</a>	1998	17	2	Active
<a href="#">Wilmore, Barry E.</a>	2000	18	2	Active
<a href="#">Wilson, Stephanie D.</a>	1996	16	3	Active
<a href="#">Wiseman, G. Reid</a>	2009	20	1	Active
<a href="#">Wisoff, Peter J. K.</a>	1990	13	4	Former
<a href="#">Wittner, Jessica A.</a>	2021	23	0	Candidate
<a href="#">Wolf, David A.</a>	1990	13	3	Former
<a href="#">Woodward, Neil W., III</a>	1998	17	0	Former
<a href="#">Worden, Alfred M.</a>	1966	5	1	Deceased
<a href="#">Young, John W.</a>	1962	2	6	Deceased
<a href="#">Zamka, George D.</a>	1998	17	2	Former

## BIOGRAPHICAL SKETCHES

### 2.1 ACTIVE U.S. ASTRONAUTS

\*\*\*There are 41 active NASA astronauts as of Jan. 2023\*\*\*

**1. ACABA, Joseph M.**

Educator astronaut

Born May 17, 1967, in Inglewood, Calif.; hometown: Anaheim, Calif.

Bachelor of Science in Geology from the University of California-Santa Barbara

Master of Science in Geology from University of Arizona

STS-119 on Space Shuttle Discovery in 2009

Expedition 31/32 on Soyuz in 2012

Expeditions 53/54 on Soyuz in 2018

3 spacewalks for a total time of 19 hours, 46 minutes

Total time in space: 306 days

**2. BARRATT, Michael R., M.D.**

Born April 16, 1959, in Vancouver, Wash.; hometown: Camas, Wash.

Bachelor of Science in Zoology from University of Washington

Doctor of Medicine from Northwestern University

Master of Science in Aerospace Medicine from Wright State University

Expedition 19/20 on Soyuz in 2009

STS-133 on Space Shuttle Discovery in 2011

2 spacewalks for a total time of 5 hours, 6 minutes

Total time in space: 212 days

**3. BARRON, Kayla J., Lieutenant, U.S. Navy**

Born Sept. 19, 1987, in Pocatello, Idaho; hometown: Richland, Wash.

Bachelor of Science in Systems Engineering from U.S. Naval Academy

Master of Science in Nuclear Engineering from University of Cambridge

Crew-3 and Expedition 66/67 on crew Dragon Endurance in 2021-2022

2 spacewalks: 13 hours, 26 minutes

Total time in space: 177 days

**4. BOE, Eric A., Colonel, U.S. Air Force (retired)**

Born Oct. 1, 1964, in Miami, Fla.; hometown: Atlanta, Ga.

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

STS-126 on Space Shuttle Endeavour in 2008

STS-133 on Space Shuttle Discovery in 2011

Total time in space: 28 days

**5. BOWEN, Stephen G., Captain, U.S. Navy (retired)**

Born Feb. 13, 1964, in Cohasset, Mass.; hometown: same

Bachelor of Science in Electrical Engineering from the U.S. Naval Academy

Master of Science in Ocean Engineering from MIT

STS-126 on Space Shuttle Endeavour in 2008

STS-132 on Space Shuttle Atlantis in 2010  
STS-133 on Space Shuttle Discovery in 2011  
7 spacewalks for a total time of 47 hours, 18 minutes  
Total time in space: 40 days

- 6. BRESNIK, Randolph J., Colonel, U.S. Marine Corps**  
Born Sept. 11, 1967, in Fort Knox, Ky.; hometown: Santa Monica, Calif.  
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  
STS-129 on Space Shuttle Atlantis in 2009  
Expedition 52/53 on Soyuz in 2017  
5 spacewalks for a total time of 32 hours  
Total time in space: 149 days
- 7. CALDWELL DYSON, Tracy, Ph.D.**  
Born Aug. 14, 1969, in Arcadia, Calif.; hometown: same  
Bachelor of Science in Chemistry from California State University-Fullerton  
Doctor of Philosophy in Physical Chemistry from the University of California-Davis  
STS-118 on Space Shuttle Endeavour in 2007  
Expedition 23/24 on Soyuz in 2010  
3 spacewalks for a total time of 22 hours, 49 minutes  
Total time in space: 188 days
- 8. CARDMAN, Zena M.**  
Born Oct. 26, 1987, in Urbana, Ill.; hometown: Williamsburg, Va.  
Bachelor of Science in Biology from University of North Carolina, Chapel Hill  
Master of Science in Marine Sciences from University of North Carolina, Chapel Hill  
Total time in space: 0
- 9. CASSADA, Josh A., Ph.D., Captain (Sel), U.S. Navy**  
Born July 18, 1973, in San Diego, Calif.; hometown: White Bear Lake, Minn.  
Bachelor of Arts in Physics from Albion College  
Master of Arts in Physics with specialty in high particle physics from University of Rochester  
Total time in space: 0
- 10. CHARI, Raja J.V., Lieutenant Colonel, U.S. Air Force**  
Born June 24, 1977, in Milwaukee, Wis.; hometown: Cedar Falls, Iowa  
Bachelor of Science in Astronautical Engineering from the U.S. Air Force Academy  
Master of Science in Aeronautical and Astronautical Engineering from MIT  
Crew-3 and Expedition 66/67 on Crew Dragon Endurance in 2021-2022  
2 spacewalks for a total of 13 hours and 8 minutes  
Total time in space: 177 days
- 11. DOMINICK, Matthew S., Lieutenant Commander, U.S. Navy**

Born Dec. 7, 1981, in Wheat Ridge, Colo.; hometown: same  
Bachelor of Science in Electrical Engineering from University of San Diego  
Master of Systems Engineering from the Naval Postgraduate School  
Total time in space: 0

**12. EPPS, Jeanette J., Ph.D.**

Born Nov. 3, 1970, in Syracuse, N.Y.; hometown: same  
Bachelor of Science in Physics from LeMoyne College  
Master of Science and Doctor of Philosophy in Aerospace Engineering from  
University of Maryland  
Total time in space: 0

**13. FEUSTEL, Andrew J., Ph.D.**

Born Aug. 25, 1965, in Lancaster, Pa.; hometown: Lake Orion, Mich.  
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  
STS-125 on Space Shuttle Atlantis in 2009  
STS-134 on Space Shuttle Endeavour in 2011  
Expedition 55/56 on Soyuz in 2018  
9 spacewalks for a total time of 61 hours, 48 minutes  
Total time in space: 226 days

**14. FINCKE, Edward M. "Mike," Colonel, U.S. Air Force (retired)**

Born March 14, 1967, in Pittsburgh, Pa; hometown: Emsworth, Pa.  
Bachelor of Science in Aeronautics and Astronautics from MIT  
Bachelor of Science in Earth, Atmospheric & Planetary Sciences from MIT  
Master of Science in Aeronautics and Astronautics from Stanford University  
Master of Science in Physical Sciences (Planetary Geology) from  
University of Houston-Clear Lake  
Expedition 9 on Soyuz in 2004  
Expedition 18 on Soyuz in 2008  
STS-134 on Space Shuttle Endeavour in 2011  
9 spacewalks for a total time of 48 hours, 36 minutes  
Total time in space: 381 days

**15. GLOVER, Victor J., Commander, U.S. Navy**

Born April 30, 1976, in Pomona, Calif.; hometown: same  
Bachelor of Science in General Engineering from California Polytechnic State  
University  
Master of Science in Flight Test Engineering from Air University  
Master of Science in Systems Engineering from Naval Post Graduate School  
Master of Military Operational Art and Science from Air University  
Crew-1 and Expedition 64/65 on Crew Dragon Resilience in 2020-2021  
4 spacewalks for a total time of 26 hours, 7 minutes  
Total time in space: 167 days

**16. HAGUE, Tyler N. "Nick", Colonel, U.S. Space Force**

Born Sept. 24, 1975, in Belleville, Kan.; hometown: Hoxie, Kan.  
Bachelor of Science in Astronautical Engineering from U.S. Air Force Academy

Master of Science in Aeronautical and Astronautical Engineering from  
Massachusetts Institute of Technology  
Expedition 59/60 on Soyuz in 2019  
3 spacewalks for a total time of 19 hours, 56 minutes  
Total time in space: 202 days

- 17. HINES**, Robert “Bob” T., Lieutenant Colonel, U.S. Air Force  
Born Jan. 11, 1975, in Fayetteville, N.C.; hometown: Harrisburg, Pa.  
Bachelor of Science in Aerospace Engineering from Boston University  
Master of Science in Flight Test Engineering from U.S. Air Force Test Pilot School  
Master of Science in Aerospace Engineering from University of Alabama  
Crew-4 and Expedition 67/68 on Crew Dragon Freedom in 2022  
Total time in space: Mission ongoing
- 18. HOBURG**, Warren “Woody” W., Ph.D.  
Born Sept. 16, 1985, in Pittsburgh, Pa.; hometown: same  
Bachelor of Science in Aeronautics and Astronautics from Massachusetts Institute of Technology  
Doctorate in Electrical Engineering and Computer Science from University of California, Berkeley  
Total time in space: 0
- 19. HOPKINS**, Michael S., Colonel, U.S. Space Force  
Born Aug. 6, 1969, in Lebanon, Mo.; hometown: Richland, Mo.  
Bachelor of Science in Aerospace Engineering from University of Illinois  
Master of Science in Aerospace Engineering from Stanford University  
Expedition 37/38 on Soyuz in 2013-2014  
Crew-1 and Expedition 64/65 on Crew Dragon Resilience in 2020  
5 spacewalks for a total time of 32 hours, 1 minute  
Total time in space: 166 days
- 20. KIM**, Jonny Y., M.D., Lieutenant, U.S. Navy  
Born Feb. 5, 1984, in Los Angeles; hometown: same  
Bachelor of Science in Mathematics from University of San Diego  
Doctor of Medicine from Harvard Medical School  
Total time in space: 0
- 21. KOCH**, Christina H.  
Born Jan. 29, 1979, in Grand Rapids, Mich.; hometown: Jacksonville, N.C.  
Bachelor of Science in Electrical Engineering from North Carolina State University  
Bachelor of Science in Physics from North Carolina State University  
Master of Science in Electrical Engineering from North Carolina State University  
Expedition 59/60/61 on Soyuz in 2019-2020  
6 spacewalks for a total time of 42 hours, 15 minutes  
Total time in space: 328 days
- 22. LINDGREN**, Kjell N., M.D.  
Born Jan. 23, 1973, in Taipei, Taiwan; home country: England

Bachelor of Science in Biology from the U.S. Air Force Academy  
Master of Science in Cardiovascular Physiology from Colorado State University  
Doctor of Medicine from the University of Colorado  
National Library of Medicine Post-Doctoral Fellowship and Master of Health Informatics from University of Minnesota  
Master of Public Health from University of Texas Medical Branch-Galveston  
Board-certified in emergency medicine and aerospace medicine  
Expedition 44/45 on Soyuz in 2015  
Crew-4 and Expedition 67/68 on Crew Dragon Freedom in 2022  
2 spacewalks for a total time of 15 hours, 4 minutes  
Total time in space: Mission ongoing

**23. MANN, Nicole A.**, Lieutenant Colonel, U.S. Marine Corps  
Born June 27, 1977, in Petaluma, Calif.; hometown: same  
Bachelor of Science in Mechanical Engineering from the U.S. Naval Academy  
Master of Science in Mechanical Engineering with specialty in fluid mechanics from Stanford University  
Total time in space: 0

**24. McARTHUR, Megan K.**, Ph.D.  
Born Aug. 30, 1971, in Honolulu, Hawaii; home state: California  
Bachelor of Science in Aerospace Engineering from the University of California-Los Angeles  
Doctor of Philosophy in Oceanography from the University of California-San Diego  
STS-125 on Space Shuttle Atlantis in 2009  
Crew-2 and Expedition 64/65 on Crew Dragon Endeavour in 2021  
Total time in space: 212 days

**25. MCCLAIN, Anne C.**, Lieutenant Colonel, U.S. Army  
Born June 7, 1979, in Spokane, Wash.; hometown: same  
Bachelor of Science in Mechanical/Aeronautical Engineering from U.S. Military Academy  
Master of Science in Aerospace Engineering from University of Bath (England)  
Master of Science in International Relations from University of Bristol (England)  
Expedition 58/59 in 2018-2019  
2 spacewalks for total time of 13 hours, 8 minutes  
Total time in space: 203 days

**26. MEIR, Jessica U.**, Ph.D.  
Born July 1, 1977, in Caribou, Maine; hometown: same  
Bachelor of Arts in Biology from Brown University  
Master of Science in Space Studies from International Space University (France)  
Doctorate in Marine Biology from the Scripps Institution of Oceanography  
Expedition 61/62 on Soyuz in 2019-2020  
3 spacewalks for a total time of 21 hours, 44 minutes  
Total time in space: 205 days

**27. MOGHBELI, Jasmin**, Major, U.S. Marine Corps



Born June 24, 1983, in Bad Nauheim, Germany; hometown: Baldwin, N.Y.  
Bachelor of Science in Aerospace Engineering with Information Technology  
from Massachusetts Institute of Technology  
Master of Science in Aerospace Engineering from the Naval Postgraduate  
School  
Total time in space: 0

**28. MORGAN**, Andrew “Drew” R., M.D., Colonel, U.S. Army  
Born Feb. 5, 1976, in Morgantown, W.Va.; hometown: New Castle, Pa.  
Bachelor of Science in Environmental Engineering from the U.S. Military  
Academy  
Doctorate in Medicine from the Uniformed Services University of the Health  
Sciences  
Expedition 60/61/62 on Soyuz in 2019-2020  
7 spacewalks for a total time of 45 hours, 48 minutes  
Total time in space: 272 days

**29. O’HARA**, Loral  
Born May 3, 1983, in Houston; hometown: Sugarland, Texas  
Bachelor of Science in Aerospace Engineering from University of Kansas  
Master of Science in Aeronautics and Astronautics from Purdue University  
Total time in space: 0

**30. PETTIT**, Donald R., Ph.D.  
Born April 20, 1955, in Silverton, Ore.; hometown: same  
Bachelor of Science in Chemical Engineering from Oregon State University  
Doctorate in Chemical Engineering from University of Arizona  
Expedition 6 on Soyuz in 2003  
STS-126 on Space Shuttle Endeavour in 2008  
Expedition 30/31 on Soyuz in 2012  
2 spacewalks for a total time of 13 hours, 17 minutes  
Total time in space: 369 days

**31. RUBINS**, Kathleen “Kate,” Ph.D.  
Born Oct. 14, 1978, in Farmington, Conn.; hometown: Napa, Calif.  
Bachelor of Science in Molecular Biology from the University of California-San  
Diego  
Doctor of Philosophy in Cancer Biology from Stanford University Medical  
School  
Expedition 48/49 on Soyuz in 2016  
Expedition 63/64 on Soyuz in 2020-2021  
4 spacewalks for a total time of 26 hours, 46 minutes  
Total time in space: 300 days

**32. RUBIO**, Frank, M.D., Major, U.S. Army  
Born Dec. 11, 1976, in Los Angeles, Calif.; hometown: Miami, Fla.  
Bachelor’s in International Relations from the United States Military Academy  
Doctor of Medicine from the Uniformed Services University of the Health  
Sciences  
Total time in space: 0

- 33. TINGLE, Scott D., Captain, U.S. Navy (retired)**  
Born July 19, 1965, in Attleboro, Mass.; hometown: Randolph, Mass.  
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  
Expedition 54/55 on Soyuz in 2017-2018  
1 spacewalk for a total time of 7 hours, 24 minutes  
Total time in space: 168 days
- 34. VANDE HEI, Mark T., Colonel, U.S. Army (retired)**  
Born Nov. 10, 1966, in Falls Church, Va.; hometown: Chanhassen, Minn.  
Bachelor of Science in Physics from Saint John's University  
Master of Science in Applied Physics from Stanford University  
Expedition 53/54 on Soyuz in 2017-2018  
Expedition 64/65 on Soyuz in 2021  
4 spacewalks for a total time of 26 hours, 42 minutes  
Total time in space: 523 days
- 35. WALKER, Shannon, Ph.D.**  
Born June 4, 1965, in Houston, Texas; hometown: same  
Bachelor of Arts, Master of Science, and Doctor of Philosophy in Space Physics from Rice University  
Expedition 24/25 on Soyuz in 2010  
Crew-1 and Expedition 64/65 on Crew Dragon Resilience in 2020-2021  
Total time in space: 331 days
- 36. WATKINS, Jessica, Ph.D.**  
Born May 5, 1988, in Gaithersburg, Md.; hometown: Lafayette, Colo.  
Bachelor of Science in Geological and Environmental Sciences from Stanford University  
Doctorate in Geology from the University of California, Los Angeles  
Crew-4 and Expedition 67/68 on Crew Dragon Freedom in 2022  
Total time in space: Mission ongoing
- 37. WHEELOCK, Douglas H., Colonel, U.S. Army (retired)**  
Born May 5, 1960, in Binghamton, N.Y.; hometown: Windsor, N.Y.  
Bachelor of Science in Applied Science and Engineering from the U.S. Military Academy  
Master of Science in Aerospace Engineering from Georgia Institute of Technology  
STS-120 on Space Shuttle Discovery in 2007  
Expeditions 24/25 on Soyuz in 2010  
6 spacewalks for a total time of 43 hours, 30 minutes  
Total time in space: 178 days
- 38. WILLIAMS, Sunita "Sunni" L., Captain, U.S. Navy (retired)**  
Born Sept. 19, 1965, in Euclid, Ohio; hometown: Needham, Mass.  
Bachelor of Science in Physical Science from the U.S. Naval Academy

Master of Science in Engineering Management from Florida Institute of Technology  
Expedition 14/15: Launched on STS-116 Space Shuttle Discovery & Landed on STS-117 Space Shuttle Atlantis in 2007  
Expedition 32/33 on Soyuz in 2012  
7 spacewalks for a total time of 50 hours, 40 minutes  
Total time in space: 321 days

**39. WILMORE**, Barry "Butch" E., Captain, U.S. Navy  
Born Dec. 29, 1962, in Murfreesboro, Tenn.; hometown: Mount Juliet, Tenn.  
Bachelor of Science and Master of Science in Electrical Engineering from Tennessee Technological University  
Master of Science in Aviation Systems from the University of Tennessee  
STS-129 on Space Shuttle Atlantis in 2009  
Expedition 41/42 on Soyuz in 2014-2015  
4 spacewalks for a total time of 25 hours, 36 minutes  
Total time in space: 178 days

**40. WILSON**, Stephanie D.  
Born Sept. 27, 1966, in Boston, Mass.; hometown: Pittsfield, Mass.  
Bachelor of Science in Engineering Science from Harvard University  
Master of Science in Aerospace Engineering from the University of Texas  
STS-121 on Space Shuttle Discovery in 2006  
STS-120 on Space Shuttle Discovery in 2007  
STS-131 on Space Shuttle Discovery in 2010  
Total time in space: 42 days

**41. WISEMAN**, G. Reid, Captain, U.S. Navy  
Born Nov. 11, 1975; hometown: Baltimore, Md.  
Bachelor of Science in Computer & Systems Engineering from Rensselaer Polytechnic Institute, Troy, N.Y.  
Master of Science in Systems Engineering from Johns Hopkins University  
Expedition 40/41 on Soyuz in 2013-2014  
2 spacewalks for total time of 12 hours, 47 minutes  
Total time in space: 165 days

## 2.2 U.S. MANAGEMENT ASTRONAUTS

### 42. **ARNOLD**, Richard R., II

Educator astronaut

Born Nov. 26, 1963, in Cheverly, Md.; hometown: Bowie, Md.

Bachelor of Science in Accounting from Frostburg State University

Master of Science in Marine, Estuarine and Environmental Science from University of Maryland

STS-119 on Space Shuttle Discovery in 2009

Expedition 55/56 on Soyuz in 2018

5 spacewalks for a total time of 32 hours, 4 minutes

Total time in space: 209 days

### 43. **AUÑÓN-CHANCELLOR**, Serena M., M.D.

Born April 9, 1976, in Indianapolis, Ind.; hometown: Fort Collins, Colo.

Bachelor of Science in Electrical Engineering from George Washington University

Doctor of Medicine from the University of Texas - Health Science Center in Houston

Expedition 56/57 on Soyuz in 2018

Total time in space: 197 days

### 44. **BOWERSOX**, Kenneth D., Captain, U.S. Navy (retired)

Born Nov. 14, 1956, in Portsmouth, Va.; hometown: Bedford, Ind.

Bachelor of Science in Aerospace Engineering from the U.S. Naval Academy

Master of Science in Mechanical Engineering from Columbia University

STS-50 on Space Shuttle Columbia in 1992

STS-61 on Space Shuttle Endeavour in 1993

STS-73 on Space Shuttle Columbia in 1995

STS-82 on Space Shuttle Discovery in 1997

Expedition 6: STS-113 Endeavour (up) in 2002 and Soyuz (down) in 2003

2 spacewalks with total time of 13 hours, 17 minutes

Total time in space: 211 days

### 45. **CABANA**, Robert D., Colonel, U.S. Marine Corps (retired)

Born Jan. 23, 1949, in Minneapolis, Minn.; hometown: same

Bachelor of Science in Mathematics from the U.S. Naval Academy

STS-41 on Space Shuttle Discovery in 1990

STS-53 on Space Shuttle Discovery in 1992

STS-65 on Space Shuttle Columbia in 1994

STS-88 on Space Shuttle Endeavour in 1998

Total time in space: 37 days, 22 hours, 42 minutes

### 46. **CAGLE**, Yvonne D., M.D., Colonel, U.S. Air Force (retired)

Born April 24, 1959, in West Point, N.Y.; hometown: Novato, Calif.

Bachelor of Arts in Biochemistry from San Francisco State University

Doctor of Medicine from the University of Washington

Certified senior aviation medical examiner from FAA

Total time in space: 0

- 47. CAMARDA, Charles J., Ph.D.**  
Born May 8, 1952, in Queens, N.Y.; hometown: same  
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  
STS-114 on Space Shuttle Discovery in 2005  
Total time in space: 13 days
- 48. CREAMER, Timothy J. "T.J.", Colonel, U.S. Army (retired)**  
Born Nov. 15, 1959, in Fort Huachuca, Ariz.; hometown: Upper Marlboro, Md.  
Bachelor of Science in Chemistry from Loyola College  
Master of Science in Physics from Massachusetts Institute of Technology  
Expedition 22/23 on Soyuz in 2010  
Total time in space: 163 days
- 49. DREW, B. Alvin, Jr., Colonel, U.S. Air Force (retired)**  
Born Nov. 5, 1962, in Washington, D.C.; hometown: same  
Bachelor of Science in Astronautical Engineering and Physics from the U.S. Air Force Academy  
Master of Aerospace Science from Embry-Riddle Aeronautical University  
Master of Strategic Studies in Political Science from the U.S. Air Force Academy  
STS-118 on Space Shuttle Endeavour in 2007  
STS-133 on Space Shuttle Discovery in 2011  
2 spacewalks for a total time of 12 hours, 48 minutes  
Total time in space: 25 days
- 50. FORRESTER, Patrick G., Colonel, U.S. Army (retired)**  
Born March 31, 1957, in El Paso, Texas; hometown: same  
Bachelor of Science in Applied Sciences and Engineering from U.S. Military Academy  
Master of Science in Mechanical and Aerospace Engineering from University of Virginia  
STS-105 on Space Shuttle Discovery in 2001  
STS-117 on Space Shuttle Atlantis in 2007  
STS-128 on Space Shuttle Discovery in 2009  
4 spacewalks for a total time of 25 hours, 30 minutes  
Total time in space: 39 days
- 51. KELLY, James "Jim" M., Colonel, U.S. Air Force (retired)**  
Born May 14, 1964, in Burlington, Iowa; hometown: same  
Bachelor of Science in Astronautical Engineering from U.S. Air Force Academy  
Master of Science in Aerospace Engineering from University of Alabama  
STS-102 on Space Shuttle Discovery in 2001  
STS-114 on Space Shuttle Discovery in 2005  
Total time in space: 26 days
- 52. LINNEHAN, Richard M., B.S., D.V.M., MPA**

Born Sept. 19, 1957, in Lowell Mass.; hometown: same  
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 The Kennedy School of Government at  
Harvard University  
STS-78 on Space Shuttle Columbia in 1996  
STS-90 on Space Shuttle Columbia in 1998  
STS-109 on Space Shuttle Columbia in 2002  
STS-123 on Space Shuttle Endeavour in 2008  
6 spacewalks for a total time of 42 hours, 12 minutes  
Total time in space: 59 days

**53. LOVE, Stanley G., Ph.D.**

Born June 8, 1965, in San Diego, Calif.; hometown: Eugene, Ore.  
Bachelor of Science in Physics from Harvey Mudd College  
Master of Science and Doctor of Philosophy in Astronomy from  
University of Washington  
STS-122 on Space Shuttle Atlantis in 2008  
2 spacewalks for a total time of 15 hours, 23 minutes  
Total time in space: 12 days

**54. MELROY, Pamela A., Colonel, U.S. Air Force (retired)**

Born Sept 17, 1961, in Palo Alto, Calif.; hometown Rochester, N.Y.  
Bachelor of Science in Physics & Astronomy from Wellesley College  
Master of Science in Earth and Planetary Sciences from Massachusetts  
Institute of Technology  
STS-92 on Space Shuttle Discovery in 2000  
STS-112 on Space Shuttle Atlantis in 2002  
STS-120 on Space Shuttle Discovery in 2007  
Total time in space: 38 days

**55. MORIN, Lee M., M.D., Ph.D., Captain, U.S. Navy (retired)**

Born Sept. 9, 1952, in Manchester, N.H.; hometown: same  
Bachelor of Science in Mathematical/Electrical Science from the  
University of New Hampshire  
Master of Science in Biochemistry from New York University  
Doctor of Medicine from New York University  
Doctor of Philosophy in Microbiology from New York University  
Master of Public Health from the University of Alabama at Birmingham  
Master of Physics from University of Houston-Clear Lake  
STS-110 on Space Shuttle Atlantis in 2002  
2 spacewalks for a total time of 14 hours, 7 minutes  
Total time in space: 10 days

**56. RICHARDS, Paul W.**

Born May 20, 1964 in Scranton, Pa; hometown: Dunmore, Pa.  
Bachelor of Science in Mechanical Engineering from Drexel University  
Master of Science in Mechanical Engineering from the University of Maryland

STS-102 on Space Shuttle Discovery in 2001  
1 spacewalk for a total time of 6 hours, 21 minutes  
Total time in space: 12 days

**57. WILCUTT**, Terrence "Terry" W., Colonel, U.S. Marine Corps (retired)  
Born Oct. 31, 1949 in Russellville, Ky.; hometown: Louisville, Ky.  
Bachelor of Arts in Mathematics from Western Kentucky University  
STS-68 on Space Shuttle Endeavour in 1994  
STS-79 on Space Shuttle Atlantis in 1996  
STS-89 on Space Shuttle Endeavour in 1998  
STS-106 on Space Shuttle Atlantis in 2000  
Total time in space: 42 days

**58. WILLIAMS**, Jeffrey "Jeff" N., Colonel, U.S. Army (retired)  
Born Jan. 18, 1958, in Superior, Wis.; hometown: Winter, Wis.  
Bachelor of Science in Applied Science and Engineering  
from the U.S. Military Academy  
Master of Science in Aeronautical Engineering from the U.S Naval Postgraduate  
School  
Master of Arts in National Security and Strategic Studies from the U.S. Naval  
War College  
STS-101 on Space Shuttle Atlantis in 2000  
Expedition 13 on Soyuz in 2006  
Expeditions 21/22 on Soyuz in 2009  
Expeditions 47/48 on Soyuz in 2016  
5 spacewalks for a total time of 31 hours, 55 minutes  
Total time in space: 534 days

## 2.3 NASA ASTRONAUT CANDIDATES

**AYERS, V. Nichole, Major, U.S. Air Force**

Born ,1989, in San Diego, Cal.; hometown: Divide, Colorado  
Bachelor of Science in Mathematics with a minor in Russian from the U.S. Air Force Academy  
Master of Science in Computational and Applied Mathematics from Rice University

**BERRIOS, G. Marcos, Ph.D., Major, U.S. Air Force**

Born, 1984 Fort Campbell, TN.; hometown: Guaynabo, Puerto Rico  
Bachelor of Science in Mechanical Engineering from Massachusetts Institute of Technology  
Master of Science in Mechanical Engineering  
Doctorate in Aeronautics from Stanford University  
U.S. Naval Test Pilot School

**BIRCH, M. Christina, Ph.D.**

Born Nov.17, 1986, in Mesa, Ariz.; hometown: Gilbert, Arizona  
Bachelor of Science in Mathematics from University of Arizona  
Bachelor of Science in Biochemistry and Molecular Biophysics with a minor in Spanish from University of Arizona  
Doctorate in Biological Engineering from Massachusetts Institute of Technology

**BURNHAM, M. Deniz, Lieutenant, U.S. Navy**

Born in 1985 at Incirlik Air Base in Turkey; home: Wasilla, Alaska  
Bachelor of Science in Chemical Engineering from University of California  
Master of Science in Mechanical Engineering from University of Southern California

**DELANEY, Luke, Major, U.S. Marine Corps, (retired)**

Born in 1979 Miami FL.; hometown: DeBary, Florida  
Bachelor of Science in Mechanical Engineering from University of North Florida  
Master of Science in Aerospace Engineering from Naval Postgraduate School

**DOUGLAS, Andre, Ph.D.**

Born 1986 in Miami FL.; hometown: Chesapeake, Virginia  
Bachelor of Science in Mechanical Engineering from U.S. Coast Guard Academy  
Master of Science in Mechanical Engineering from University of Michigan  
Master of Science in Naval Architecture and Marine Engineering from University of Michigan  
Master of Science in Electrical and Computer Engineering from John Hopkins University  
Doctorate in Systems Engineering from George Washington University

**HATHAWAY, Jack, Commander, U.S. Navy**

Born 1982 in South Windsor, Connecticut  
Bachelor of Science in Physics and History from U.S. Naval Academy  
Master of Science in Flight Dynamics from Cranfield University  
Master of Science in National Security and Strategic Studies from U.S. Naval War College  
Empire Test Pilot School



**MENON, S. Anil, M.D., Lieutenant Colonel, U.S. Air Force**  
Born Oct. 15, 1976 in Minneapolis, Minnesota  
Bachelor of Science in Neurobiology from Harvard University  
Master of Science in Mechanical Engineering from Stanford University  
Doctor of Medicine, Stanford Medical School  
Residency of Emergency Medicine, Stanford University  
Fellowship in Wilderness Medicine, Stanford University  
Residency in Aerospace Medicine from University of Texas Medical Branch at Galveston  
Master of Science in Public Health from University of Texas Medical Branch at Galveston

**WILLIAMS, L. Christopher, Ph.D.**  
Born 1983 in New York City, NY.; hometown: Potomac, Maryland  
Bachelor of Science in Physics from Stanford University  
Doctorate in Physics from Massachusetts Institute of Technology  
Residency Training at Harvard Medical Residency Program

**WITTNER, A. Jessica, Lieutenant Commander, U.S. Navy**  
Born 1983 Fresno, CA.; hometown: Clovis, California  
Bachelor of Science in Aerospace Engineering from University of Arizona  
U.S. Naval Test Pilot School  
Master of science in Aerospace Engineering from U.S. Naval Post Graduate School  
Naval Command and staff graduate from U.S. Naval War College

## 2.3 FORMER U.S. ASTRONAUTS & PAYLOAD SPECIALISTS

**ACTON**, Loren W., Ph.D.

Payload specialist  
Born March 7, 1936, in Lewiston, Mont.  
Bachelor of Science from Montana State University  
Doctorate from the University of Colorado  
STS-51F on Space Shuttle Challenger in 1985  
Total time in space: 7 days

**ADAMSON**, James C., Colonel, U. S. Army (retired)

Born March 3, 1946, in Warsaw, N.Y.  
Bachelor of Science in Engineering from the U.S. Military Academy  
Master of Science in Aerospace Engineering from Princeton University  
Graduate of the Navy Test Pilot School  
STS-28 on Space Shuttle Columbia in 1989  
STS-43 on Space Shuttle Atlantis in 1991  
Total time in space: 13 days

**AKERS**, Thomas D., Colonel, U.S. Air Force (retired)

Born May 20, 1951, in St. Louis, Mo.; hometown: Eminence, Mo.  
Bachelor of Science and Master of Science in Applied Mathematics from the  
Missouri University of Science and Technology  
STS-41 on Space Shuttle Discovery in 1990  
STS-49 on Space Shuttle Endeavour in 1992  
STS-61 on Space Shuttle Endeavour in 1993  
STS-79 on Space Shuttle Atlantis in 1996  
4 spacewalks for a total time of 29 hours, 40 minutes  
Total time in space: 33 days

**ALDRIN**, Buzz, Colonel, Ph.D., U.S. Air Force (retired)

Born January 20, 1930, in Montclair, N.J.  
Bachelor of Science in Mechanical Engineering from the U.S. Military Academy  
Doctor of Science in Astronautics from Massachusetts Institute of Technology  
Gemini 12 in 1966  
Apollo 11 in 1969  
2 spacewalks for a total time of 4 hours, 41 minutes  
Total time in space: 12 days

**ALLEN**, Andrew M., Lieutenant Colonel, U.S. Marine Corps (retired)

Born Aug. 4, 1955, in Philadelphia, Pa.  
Bachelor of Science in Mechanical Engineering from Villanova University  
Master's in Business Administration from the University of Florida  
STS-46 on Space Shuttle Atlantis in 1992  
STS-62 on Space Shuttle Columbia in 1994  
STS-75 on Space Shuttle Columbia in 1996  
Total time in space: 37 days

**ALLEN**, Joseph P., Ph.D.

Born June 27, 1937, in Crawfordsville, Ind.

Bachelor of Arts in Mathematics and Physics from DePauw University  
Master of Science and Doctor of Philosophy in Physics from Yale University  
STS-5 on Space Shuttle Columbia in 1982  
STS-51A on Space Shuttle Discovery in 1984  
2 spacewalks for a total time of 11 hours, 42 minutes  
Total time in space: 13 days

**ALTMAN**, Scott D., Captain, U.S. Navy (retired)  
Born Aug. 15, 1959, in Lincoln, Ill.  
Bachelor of Science in Aeronautical & Astronautical engineering from the University of Illinois  
Master of Science in Aeronautical Engineering from the U.S. Naval Postgraduate School  
STS-90 on Space Shuttle Columbia in 1998  
STS-106 on Space Shuttle Atlantis in 2000  
STS-109 on Space Shuttle Columbia in 2002  
STS-125 on Space Shuttle Atlantis in 2009  
Total time in space: 51 days

**ANDERS**, William A., Major General, U.S. Air Force Reserve (retired)  
Born Oct. 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  
Apollo 8 in 1968  
Total time in space: 6 days

**ANDERSON**, Clayton C.  
Born Feb. 23, 1959, in Omaha, Neb.; hometown: Ashland, Neb.  
Bachelor of Science in Physics from Hastings College  
Master of Science in Aerospace Engineering from Iowa State University  
Expedition 15: STS-117 on Space Shuttle Atlantis (launch) and STS-120 on Space Shuttle Discovery (landing) in 2007  
STS-131 on Space Shuttle Discovery in 2010  
6 spacewalks for a total time of 38 hours, 28 minutes  
Total time in space: 166 days

**ANTONELLI**, Dominic A., Commander, U.S. Navy  
Born August 23, 1967, in Detroit, Mich.  
Bachelor of Science in Aeronautics & Astronautics from Massachusetts Institute of Technology  
Master of Science in Aeronautics & Astronautics from University of Washington  
STS-119 on Space Shuttle Discovery in 2009  
STS-132 on Space Shuttle Atlantis in 2010  
Total time in space: 24 days

**APT**, Jerome, Ph.D.  
Born April 18, 1949, in Springfield, Mass.; hometown: Pittsburgh, Pa.  
Bachelor of Arts in Physics from Harvard College  
Doctor of Philosophy in Physics from Massachusetts Institute of Technology  
STS-37 on Space Shuttle Atlantis in 1991

STS-47 on Space Shuttle Endeavour in 1992  
STS-59 on Space Shuttle Endeavour in 1994  
STS-79 on Space Shuttle Atlantis in 1996  
2 spacewalks for a total time of 10 hours, 13 minutes  
Total time in space: 35 days

**ARCHAMBAULT**, Lee J., Colonel, U.S. Air Force (retired)  
Born Aug. 25, 1960, in Oak Park, Ill.; hometown: Bellwood, Ill.  
Bachelor of Science and Master of Science in aeronautical/astronautical  
engineering from the University of Illinois-Urbana  
STS-117 on Space Shuttle Atlantis in 2007  
STS-119 on Space Shuttle Discovery in 2009  
Total time in space: 26 days

**ASHBY**, Jeffrey S., Captain, U.S. Navy (retired)  
Born June 16, 1954, in Dallas, Texas; hometown: Evergreen, Colo.  
Bachelor of Science in Mechanical Engineering from the University of Idaho  
Master of Science in Aviation Systems from the University of Tennessee  
Graduate of the Naval Test Pilot School  
Graduate of the Naval Fighter Weapons School (Top Gun)  
STS-93 on Space Shuttle Columbia in 1999  
STS-100 on Space Shuttle Endeavour in 2001  
STS-112 on Space Shuttle Atlantis in 2002  
Total time in space: 27 days

**BAGIAN**, James P., M.D.  
Born Feb. 22, 1952, in Philadelphia, Pa.  
Bachelor of Science in Mechanical Engineering from Drexel University  
Doctor of Medicine from Thomas Jefferson University  
STS-29 on Space Shuttle Discovery in 1989  
STS-40 on Space Shuttle Columbia in 1991  
Total time in space: 14 days

**BAKER**, Ellen S., M.D.  
Born April 27, 1953, in Fayetteville, N.C.; hometown: New York, N.Y.  
Bachelor of Arts in Geology from the State University of New York – Buffalo  
Doctor of Medicine from Cornell University  
Master of Public Health from the University of Texas  
STS-34 on Space Shuttle Atlantis in 1989  
STS-50 on Space Shuttle Columbia in 1992  
STS-71 on Space Shuttle Atlantis in 1995  
Total time in space: 28 days

**BAKER**, Michael A., Captain, U.S. Navy (retired)  
Born Oct. 27, 1953, in Memphis, Tenn.; hometown: Lemoore, Calif.  
Bachelor of Science in Aerospace Engineering from the University of Texas  
STS-43 on Space Shuttle Atlantis in 1991  
STS-52 on Space Shuttle Columbia in 1992  
STS-68 on Space Shuttle Endeavour in 1994  
STS-81 on Space Shuttle Atlantis in 1997

Total time in space: 40 days

**BARRY, Daniel T, M.D., Ph.D.**

Born Dec. 30, 1953, in Norwalk, Conn.; hometown: South Hadley, Mass.  
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 the University of Miami  
STS-72 on Space Shuttle Endeavour in 1996  
STS-96 on Space Shuttle Discovery in 1999  
STS-105 on Space Shuttle Discovery in 2001  
4 spacewalks for a total time of 25 hours, 49 minutes  
Total time in space: 30 days

**BARTOE, John-David F., Ph.D.**

Payload Specialist  
Born Nov. 17, 1944, in Abington, Pa.  
Bachelor of Science in Physics from Lehigh University  
Master of Science and Doctor of Philosophy of Physics from Georgetown University  
SS-51F on Space Shuttle Challenger in 1985  
Total time in space: 7 days

**BEHNKEN, Robert L., Ph.D., Colonel, U.S. Air Force**

Born July 28, 1970, in Creve Coeur, Mo.; hometown: St. Ann, Mo.  
Bachelor of Science in Physics and Mechanical Engineering from Washington University  
Master of Science and Doctor of Philosophy in Mechanical Engineering from California Institute of Technology  
STS-123 on Space Shuttle Endeavour in 2008  
STS-130 on Space Shuttle Endeavour in 2010  
Demo-2 and Expedition 63 on Crew Dragon Endeavour in 2020  
10 spacewalks for a total time of 61 hours, 10 minutes  
Total time in space: 63 days

**BLAHA, John E., Colonel, U.S. Air Force (retired)**

Born Aug. 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  
STS-29 on Space Shuttle Discovery in 1989  
STS-33 on Space Shuttle Discovery in 1989  
STS-43 on Space Shuttle Atlantis in 1991  
STS-58 on Space Shuttle Columbia in 1993  
Mir: STS-79 on Space Shuttle Atlantis (launch) in 1996 and STS-81 on Atlantis (landing) in 1997  
Total time in space: 160 days

**BLOOMFIELD, Michael J., Colonel, U.S. Air Force (retired)**

Born March 16, 1959, in Flint, Mich.; hometown: Lake Fenton, Mich.  
Bachelor of Science in Engineering Mechanics from the U.S Air Force Academy

Master of Engineering Management from Old Dominion University  
STS-86 on Space Shuttle Atlantis in 1997  
STS-97 on Space Shuttle Endeavour in 2000  
STS-110 on Space Shuttle Atlantis in 2002  
Total time in space: 32 days

**BLUFORD**, Guion S., Jr., Ph.D., Colonel, U.S. Air Force (retired)  
Born Nov. 22, 1942, in Philadelphia, Pa.  
Bachelor of Science in Aerospace Engineering from The 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  
STS-8 on Space Shuttle Challenger in 1983  
STS-61-A on Space Shuttle Challenger in 1985  
STS-39 on Space Shuttle Discovery in 1991  
STS-53 on Space Shuttle Discovery in 1992  
Total time in space: 28 days

**BOBKO**, Karol J., Colonel, U.S. Air Force (retired)  
Born Dec. 23, 1937, in New York, N.Y.  
Bachelor of Science from the U.S. Air Force Academy  
Master of Science in Aerospace Engineering from the University of Southern California  
STS-6 on Space Shuttle Challenger in 1983  
STS-51D on Space Shuttle Discovery in 1985  
STS-51J on Space Shuttle Atlantis in 1985  
Total time in space: 16 days

**BOLDEN**, Charles F., Jr., Major General, U.S. Marine Corps (retired)  
Born Aug. 19, 1946, in Columbia, S.C.  
Bachelor of Science in Electrical Science from the U.S. Naval Academy  
Master of Science in Systems Management from the University of Southern California  
STS-61-C on Space Shuttle Columbia in 1986  
STS-31 on Space Shuttle Discovery in 1990  
STS-45 on Space Shuttle Atlantis in 1992  
STS-60 on Space Shuttle Discovery in 1994  
Total time in space: 28 days

**BORMAN**, Frank, Colonel, U.S. Air Force (retired)  
Born March 14, 1928, in Gary, Ind.,  
Bachelor of Science from the U.S. Military Academy  
Master of Science in Aeronautical Engineering from California Institute of Technology  
Gemini 7 in 1965  
Apollo 8 in 1968  
Total time in space: 19 days

**BRAND**, Vance D., U.S. Marine Corps, Marine Corps Reserve and Air National Guard (retired)

Born May 9, 1931, in Longmont, Calif.

Bachelor of Science in Business and Bachelor of Science in Aeronautical Engineering from the University of Colorado

Master of Business Administration from the University of California, Los Angeles  
ASTP in 1975

STS-5 on Space Shuttle Columbia in 1982

STS-41B on Space Shuttle Challenger in 1984

STS-35 on Space Shuttle Columbia in 1990

Total time in space: 31 days

**BRANDENSTEIN**, Daniel C., Captain, U.S. Navy (retired)

Born Jan. 17, 1943, in Watertown, Wis.

Bachelor of Science in Mathematics & Physics from the University of Wisconsin

STS-8 on Space Shuttle Challenger in 1983

STS-51G on Space Shuttle Discovery in 1985

STS-32 on Space Shuttle Columbia in 1990

STS-49 on Space Shuttle Endeavour in 1992

Total time in space: 32 days

**BRIDGES**, Roy D., Jr., Major General, U.S. Air Force (retired)

Born July 19, 1943, in Atlanta, Ga.

Bachelor of Engineering Science from the U.S Air Force Academy

Master of Science in Astronautics from Purdue University

STS-51F on Space Shuttle Challenger in 1985

Total time in space: 7 days

**BROWN**, Curtis L., Jr., Colonel, U.S. Air Force (retired)

Born March 11, 1956, in Elizabethtown, N.C.

Bachelor of Science in Electrical Engineering from the U.S Air Force Academy

STS-47 on Space Shuttle Endeavour in 1992

STS-66 on Space Shuttle Atlantis in 1994

STS-77 on Space Shuttle Endeavour in 1996

STS-85 on Space Shuttle Discovery in 1997

STS-95 on Space Shuttle Discovery in 1998

STS-103 on Space Shuttle Discovery in 1999

Total time in space: 57 days

**BROWN**, Mark N., Colonel, U.S. Air Force (retired)

Born Nov. 18, 1951, in Valparaiso, Ind.

Bachelor of Science in Aeronautical & Astronautical engineering from Purdue University

Master of Science in astronautical engineering from the Air Force Institute of Technology

STS-28 on Space Shuttle Columbia in 1989

STS-48 on Space Shuttle Discovery in 1991

Total time in space: 10 days

**BUCHLI**, James F., Colonel, U.S. Marine Corps (retired)

Born June 20, 1945, in New Rockford, N.D.: hometown: Fargo, N.D.

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

STS-51-C on Space Shuttle Discovery in 1985  
STS-61-A on Space Shuttle Challenger in 1985  
STS-29 on Space Shuttle Discovery in 1989  
STS-48 on Space Shuttle Discovery in 1991  
Total time in space: 20 days

**BUCKEY, Jay Clark, M.D.**

Payload specialist  
Born June 6, 1956, in New York, N.Y.  
Bachelor of Science in Electrical Engineering Cornell University  
Doctorate in Medicine, Cornell University  
STS-90 on Space Shuttle Columbia 1998  
Total time in space: 15 days

**BURBANK, Daniel C., Captain, U.S. Coast Guard (retired)**

Born July 27, 1961, in Manchester, Conn.; hometown: Yarmouthport, Mass.  
Bachelor of Science in Electrical Engineering from the U.S. Coast Guard Academy  
Master of Science in Aeronautical Science from Embry-Riddle Aeronautical  
University  
STS-106 on Space Shuttle Atlantis in 2000  
STS-115 on Space Shuttle Atlantis in 2006  
Expedition 29/30 on Soyuz in 2012  
1 spacewalk for a total time of 7 hours, 11 minutes  
Total time in space: 188 days

**BURSCH, Daniel W., Captain, U.S. Navy (retired)**

Born July 25, 1957 in Bristol, Pa.; hometown: Vestal, N.Y.  
Bachelor of Science in Physics from the U.S. Naval Academy  
Master of Science in Engineering Science from the Naval Postgraduate School  
STS-51 on Space Shuttle Discovery in 1993  
STS-68 on Space Shuttle Endeavour in 1994  
STS-77 on Space Shuttle Endeavour in 1996  
Expedition 4: STS-108 Space Shuttle Endeavour (launch) and STS-111 Endeavour  
(landing) in 2002  
2 spacewalks for a total time of 11 hours, 46 minutes  
Total time in space: 226 days

**CAMERON, Kenneth D., Colonel, U.S. Marine Corps (retired)**

Born Nov. 29, 1949, in Cleveland, Ohio  
Bachelor of Science and Master of Science in Aeronautics & Astronautics from  
Massachusetts Institute of Technology  
Graduated from the U.S. Navy Test Pilot School  
Master of Business Administration from Michigan State University  
STS-37 on Space Shuttle Atlantis in 1991  
STS-56 on Space Shuttle Discovery in 1993  
STS-74 on Space Shuttle Atlantis in 1995  
Total time in space: 23 days

**CAREY, Duane G., Lieutenant Colonel, U.S. Air Force (retired)**

Born April 30, 1957, in St. Paul, Minn.



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  
STS-109 on Space Shuttle Columbia in 2002  
Total time in space: 10 days

**CASPER**, John H., Colonel, U.S. Air Force (retired)  
Born July 9, 1943, in Greenville, S.C.; hometown: Gainesville, Ga.  
Bachelor of Science in Engineering Science from the U.S. Air Force Academy  
Master of Science in Astronautics from Purdue University  
Graduate of the Air Force Air War College  
STS-36 on Space Shuttle Atlantis in 1990  
STS-54 on Space Shuttle Endeavour in 1993  
STS-62 on Space Shuttle Columbia in 1994  
STS-77 on Space Shuttle Endeavour in 1996  
Total time in space: 34 days, 9 hours, 52 minutes

**CASSIDY**, Christopher J., Captain, U.S. Navy  
Born Jan. 4, 1970, in Salem, Mass.; hometown: York, Maine  
Bachelor of Science in Mathematics from the U.S. Naval Academy  
Master of Science in Ocean Engineering from Massachusetts Institute of  
Technology  
STS-127 on Space Shuttle Endeavour in 2009  
Expedition 35/36 on Soyuz in 2013  
Expedition 63 on Soyuz in 2020  
10 spacewalks for a total time of 54 hours, 51 minutes  
Total time in space: 378 days

**CENKER**, Robert  
Payload specialist  
Born Nov. 5, 1948, in Uniontown, Pa.  
Bachelor's in Aerospace Engineering from The Pennsylvania State University  
Master's in Aerospace Engineering from The Pennsylvania State University  
Master's in Electrical Engineering from Rutgers University  
STS-61C on Space Shuttle Columbia  
Total time in space: 6 days

**CHAMITOFF**, Gregory E., Ph.D.  
Born August 6, 1962, in Montreal, Canada; hometown: San Jose, Calif.  
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 & Astronautics from Massachusetts Institute of  
Technology  
Master of Science in Planetary Geology from University of Houston-Clear Lake  
Expedition 17/18: STS-124 on Space Shuttle Discovery (launch), STS-126  
Endeavour (landing) in 2008  
STS-134 on Space Shuttle Endeavour in 2011  
2 spacewalks for a total time of 13 hours, 43 minutes

Total time in space: 198 days

**CHANG-DIAZ**, Franklin R., Ph.D.

Born April 5, 1950, in San Jose, Costa Rica  
Bachelor of Science in Mechanical Engineering from the University of Connecticut  
Doctor of Philosophy in Applied Plasma Physics from Massachusetts Institute of Technology  
STS-61C on Space Shuttle Columbia in 1986  
STS-34 on Space Shuttle Atlantis in 1989  
STS-46 on Space Shuttle Atlantis in 1992  
STS-60 on Space Shuttle Discovery in 1994  
STS-75 on Space Shuttle Columbia in 1996  
STS-91 on Space Shuttle Discovery in 1998  
STS-111 on Space Shuttle Endeavour in 2002  
3 spacewalks for a total time of 19 hours, 30 minutes  
Total time in space: 66 days

**CHIAO**, Leroy, Ph.D.

Born Aug. 28, 1960, in Milwaukee, Wis.; hometown: Danville, Calif.  
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  
STS-65 on Space Shuttle Columbia in 1994  
STS-72 on Space Shuttle Endeavour in 1996  
STS-92 on Space Shuttle Discovery in 2000  
Expedition 10 on Soyuz in 2004-2005  
6 spacewalks for a total time of 36 hours, 19 minutes  
Total time in space: 229 days

**CHILTON**, Kevin P., General, U.S. Air Force (retired)

Born Nov. 3, 1954, in Los Angeles  
Bachelor of Science in Engineering Sciences from the U.S Air Force Academy  
Master of Science in Mechanical Engineering from Columbia University  
STS-49 on Space Shuttle Endeavour in 1992  
STS-59 on Space Shuttle Endeavour in 1994  
STS-76 on Space Shuttle Atlantis in 1996  
Total time in space: 29 days

**CLEAVE**, Mary L., Ph. D.

Born Feb. 5, 1947, in Southampton, N.Y.  
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  
STS-61B on Space Shuttle Atlantis in 1985  
STS-30 on Space Shuttle Atlantis in 1989  
Total time in space: 10 days

**COATS**, Michael L., Captain, U.S. Navy (retired)

Born Jan. 16, 1946, in Sacramento, Calif.

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  
STS-41D on Space Shuttle Discovery in 1984  
STS-29 on Space Shuttle Discovery in 1989  
STS-39 on Space Shuttle Discovery in 1991  
Total time in space: 19 days

**COCKRELL**, Kenneth D., U.S. Naval Reserves (retired)  
Born April 9, 1950, in Austin, Texas; hometown: Rockdale, Texas  
Bachelor of Science in Mechanical Engineering from the University of Texas  
Master of Science in Aeronautical Systems from the University of West Florida  
STS-56 on Space Shuttle Discovery in 1993  
STS-69 on Space Shuttle Endeavour in 1995  
STS-80 on Space Shuttle Columbia in 1996  
STS-98 on Space Shuttle Atlantis in 2001  
STS-111 on Space Shuttle Endeavour in 2002  
Total time in space: 64 days

**COLEMAN**, Catherine G. "Cady," Ph.D., Colonel, U.S. Air Force (retired)  
Born Dec. 14, 1960, in Charleston, S.C.  
Bachelor of Science in Chemistry from Massachusetts Institute of Technology  
Doctor of Philosophy in Polymer Science & Engineering from the  
University of Massachusetts  
STS-73 on Space Shuttle Columbia in 1995  
STS-93 on Space Shuttle Columbia in 1999  
Expedition 26/27 on Soyuz in 2011  
Total time in space: 180 days

**COLLINS**, Eileen M., Colonel, U.S Air Force (retired)  
Born Nov. 19, 1956, in Elmira, N.Y.  
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  
STS-63 on Space Shuttle Discovery in 1995  
STS-84 on Space Shuttle Atlantis in 1997  
STS-93 on Space Shuttle Columbia in 1999  
STS-114 on Space Shuttle Discovery in 2005  
Total time in space: 37 days

**COVEY**, Richard O., Colonel, U.S. Air Force (retired)  
Born Aug. 1, 1946, in Fayetteville, Ark.; hometown: Fort Walton Beach, Fla.  
Bachelor of Science in Engineering Sciences from the U.S. Air Force Academy  
Master of Science in Aeronautics & Astronautics from Purdue University  
STS-51I on Space Shuttle Discovery in 1985  
STS-26 on Space Shuttle Discovery in 1988  
STS-38 on Space Shuttle Atlantis in 1990  
STS-61 on Space Shuttle Endeavour in 1994  
Total time in space: 26 days

**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

STS-51G on Space Shuttle Discovery in 1985

STS-36 on Space Shuttle Atlantis in 1990

STS-48 on Space Shuttle Discovery in 1991

Total time in space: 16 days

**CRIPPEN, Robert L., Captain, U.S. Navy (retired)**

Born Sept. 11, 1937, in Beaumont, Texas

Bachelor of Science in Aerospace Engineering from the University of Texas

STS-1 on Space Shuttle Columbia in 1981

STS-7 on Space Shuttle Challenger in 1983

STS-41C on Space Shuttle Challenger in 1984

STS-41G on Space Shuttle Challenger in 1984

Total time in space: 23 days

**CROUCH, Roger K., Ph.D.**

Payload specialist

Born Sept. 12, 1940, in Jamestown, Tenn.

Bachelor of Science in Physics from Tennessee Polytechnic Institute

Master of Science and Doctor of Philosophy in Physics from Virginia Polytechnic Institute

STS-83 on Space Shuttle Columbia in 1997

STS-94 on Space Shuttle Columbia in 1997

Total time in space: 19 days

**CULBERTSON, Frank L., Jr., Captain, U.S. Navy (retired)**

Born May 15, 1949, in Charleston, S.C.; hometown: Holly Hill, S.C.

Bachelor of Science in Aerospace Engineering from the U.S. Naval Academy

STS-38 on Space Shuttle Atlantis in 1990

STS-51 on Space Shuttle Discovery in 1993

Expedition 3: STS-105 Discovery (launch) and STS-108 Endeavour (landing) in 2001

1 spacewalk for a total time of 5 hours, 4 minutes

Total time in space: 143 days

**CURBEAM, Robert L., Jr., Captain, U.S. Navy (retired)**

Born March 5, 1962, in Baltimore, Md.

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 the Naval Postgraduate School

STS-85 on Space Shuttle Discovery in 1997

STS-98 on Space Shuttle Atlantis in 2001

STS-116 on Space Shuttle Discovery in 2006

7 spacewalks for a total time of 45 hours, 33 minutes

Total time in space: 37 days

**CURRIE-GREGG**, Nancy J. (Sherlock), Ph.D., Colonel, U.S. Army (retired)  
Born Dec. 29, 1958, in Wilmington, Del.; hometown: Troy, Ohio  
Bachelor of Arts in Biological Science from Ohio State University  
Master of Science in Safety Engineering from the University of Southern California  
Doctor of Philosophy in Industrial Engineering from the University of Houston  
STS-57 on Space Shuttle Endeavour in 1993  
STS-70 on Space Shuttle Discovery in 1995  
STS-88 on Space Shuttle Endeavour in 1998  
STS-109 on Space Shuttle Columbia in 2002  
Total time in space: 41 days

**DAVIS**, N. Jan, Ph.D.  
Born Nov. 1, 1953, in Cocoa Beach, Fla.; hometown: Huntsville, Ala.  
Bachelor of Science in Applied Biology from 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  
STS-47 on Space Shuttle Endeavour in 1992  
STS-60 on Space Shuttle Discovery in 1994  
STS-85 on Space Shuttle Discovery in 1997  
Total time in space: 28 days

**DELUCAS**, Lawrence J., Ph.D.  
Payload specialist  
Born July 11, 1950, in Syracuse, N. Y.  
Bachelor of Science and Master of Science in Chemistry, Bachelor of Science in Physiological Optics, Doctorate in Optometry, and Doctorate in Biochemistry from the University of Alabama at Birmingham  
STS-50 on Space Shuttle Columbia in 1992  
Total time in space: 13 days

**DUFFY**, Brian, Colonel, U.S. Air Force (retired)  
Born June 20, 1953, in Boston, Mass.  
Bachelor of Science in Mathematics from the U.S. Air Force Academy  
Master of Science in Systems Management from the University of Southern California  
STS-45 on Space Shuttle Atlantis in 1992  
STS-57 on Space Shuttle Endeavour in 1993  
STS-72 on Space Shuttle Endeavour in 1996  
STS-92 on Space Shuttle Discovery in 2000  
Total time in space: 40 days

**DUKE**, Charles M., Jr., Brigadier General, U.S. Air Force (retired)  
Born Oct. 3, 1935, in Charlotte, N.C.  
Bachelor of Science in Naval Sciences from the U.S. Naval Academy  
Master of Science in Aeronautics from Massachusetts Institute of Technology  
Apollo 16 in 1972  
3 spacewalks for a total time of 20 hours, 14 minutes  
Total time in space: 11 days

**DUNBAR**, Bonnie, Ph.D.

Born March 3, 1949, in Sunnyside, Wash.  
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  
STS-61A on Space Shuttle Challenger in 1985  
STS-32 on Space Shuttle Columbia in 1990  
STS-50 on Space Shuttle Columbia in 1992  
STS-71 on Space Shuttle Atlantis in 1995  
STS-89 on Space Shuttle Endeavour in 1998  
Total time in space: 50 days

**DURRANCE**, Samuel T., Ph.D.

Payload specialist  
Born Sept. 17, 1943, in Tallahassee, Fla.; hometown: Tampa, Fla.  
Bachelor of Science and Master of Science in Physics from California State  
University, Los Angeles, Calif.  
Doctor of Philosophy in Astro-Geophysics from the University of Colorado  
STS-35 on Space Shuttle Columbia in 1990  
STS-67 on Space Shuttle Endeavour in 1995  
Total time in space: 25 days

**DUTTON**, James P., Jr., Colonel, U.S. Air Force

Born Nov. 20, 1968, in Eugene, Ore.  
Bachelor of Science in Astronautical Engineering from the U.S. Air Force Academy  
Master of Science in Aeronautics & Astronautics from the University of Washington  
STS-131 on Space Shuttle Discovery in 2010  
Total time in space: 15 days

**EDWARDS**, Joe F., Jr., Commander, U.S. Navy (retired)

Born Feb. 3, 1958, in Richmond, Va.; hometowns: Roanoke and Lineville, Ala.  
Bachelor of Science in Aerospace Engineering from the U.S. Naval Academy  
Master of Science in Aviation Systems from the University of Tennessee-Knoxville  
STS-89 on Space Shuttle Endeavour in 1998  
Total time in space: 8 days

**ENGLAND**, Anthony W., Ph.D.

Born May 15, 1942, in Indianapolis, Ind.; hometown: West Fargo, N.D.  
Bachelor of Science and Master of Science in Geology and Doctor of Philosophy in  
Geophysics from Massachusetts Institute of Technology  
STS-51F on Space Shuttle Challenger in 1985  
Total time in space: 7 days

**ENGLE**, Joe H., Major General, Air National Guard/U.S. Air Force (retired)

Born Aug. 26, 1932, in Dickinson County, Kan.  
Bachelor of Science in Aeronautical Engineering from the University of Kansas  
16 flights in USAF/NASA X-15 – 3 flights into space  
ALT flights 2 and 4  
STS-2 on Space Shuttle Columbia in 1981  
STS-51I on Space Shuttle Discovery in 1985

Total time in space: 9 days

**FABIAN**, John M., Colonel, Ph.D., U.S. Air Force (retired)  
Born Jan. 28, 1939, in Goose Creek, Texas; hometown: Pullman, Wash.  
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  
STS-7 on Space Shuttle Challenger in 1983  
STS-51G on Space Shuttle Discovery in 1985  
Total time in space: 13 days

**FERGUSON**, Christopher J., Captain, U.S. Navy (retired)  
Born Sept. 1, 1961, in Philadelphia, Pa.  
Bachelor of Science in Mechanical Engineering from Drexel University  
Master of Science in Aeronautical Engineering from the U.S. Naval Postgraduate School  
STS-115 on Space Shuttle Atlantis in 2006  
STS-126 on Space Shuttle Endeavour in 2008  
STS-135 on Space Shuttle Atlantis in 2011  
Total time in space: 40 days

**FETTMAN**, Martin J., Ph.D.  
Payload specialist  
Born Dec. 31, 1956, in Brooklyn, N.Y.  
Bachelor of Science in Animal Nutrition from Cornell University  
Doctor of Philosophy in Physiology from Colorado State University  
STS-58 on Space Shuttle Columbia  
Total time in space: 14 days

**FISCHER**, Jack D., Colonel, U.S. Air Force  
Born Jan. 23, 1974, in Louisville, Colo.  
Bachelor of Science in Astronautical Engineering from the U.S. Air Force Academy  
Master of Science in Aeronautics & Astronautics from Massachusetts Institute of Technology  
Expedition 51/52 on Soyuz in 2017  
2 spacewalks for a total time of 6 hours, 59 minutes  
Total time in space: 136 days

**FISHER**, Anna L., M.D.  
Born Aug. 24, 1949, in New York, N.Y.; hometown: San Pedro, Calif.  
Bachelor of Science and Master of Science in Chemistry from the University of California-Los Angeles  
Doctor of Medicine from the University of California-Los Angeles  
STS-51-A on Space Shuttle Discovery in 1984  
Total time in space: 7 days

**FISHER**, William F., M.D.  
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  
STS-51I on Space Shuttle Discovery in 1985  
2 spacewalks for a total time of 11 hours, 46 minutes  
Total time in space: 7 days

**FOALE, C. Michael, Ph.D.**

Born Jan. 6, 1957, in Louth, England; hometown: Cambridge, England  
Bachelor of Arts in Physics from Cambridge University  
Doctor of Philosophy in Laboratory Astrophysics from Cambridge University  
STS-45 on Space Shuttle Atlantis in 1992  
STS-56 on Space Shuttle Discovery in 1993  
STS-63 on Space Shuttle Discovery in 1995  
Mir 23 on STS-84 Atlantis (launch) and STS-86 Atlantis (landing) in 1997  
STS-103 on Space Shuttle Discovery in 1999  
Expedition 8 on Soyuz in 2003  
4 spacewalks for a total time of 22 hours, 45 minutes  
Total time in space: 373 days

**FORD, Kevin A., Ph.D., Colonel, U.S. Air Force (retired)**

Born July 7, 1960, in Portland, Ind.; hometown: Montpelier, Ind.  
Bachelor of Science in Aerospace Engineering from the University of Notre Dame  
Master of Science in International Relations from Troy State University  
Master of Science in Aerospace Engineering from the University of Florida  
Doctorate in Astronautical Engineering from the Air Force Institute of Technology  
Graduate of Squadron Officer School, the Air Command and Staff College  
Associate Program and Air War College  
STS-128 on Space Shuttle Discovery in 2009  
Expedition 33/34 on Soyuz in 2013  
Total time in space: 157 days

**FOREMAN, Michael J., Captain, U.S. Navy (retired)**

Born March 29, 1957, in Columbus, Ohio; hometown: Wadsworth, Ohio  
Bachelor of Science in Aerospace Engineering from the U.S. Naval Academy  
Master of Science in Aeronautical Engineering from the U.S. Naval Postgraduate  
School  
STS-123 on Space Shuttle Endeavour in 2008  
STS-129 on Space Shuttle Atlantis in 2009  
5 spacewalks for a total time of 32 hours, 20 minutes  
Total time in space: 26 days

**FOSSUM, Michael E., U.S. Air Force Reserves (retired)**

Born Dec. 19, 1957, in Sioux Falls, S.D.; 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  
STS-121 on Space Shuttle Discovery in 2006



STS-124 on Space Shuttle Discovery in 2008  
Expedition 28/29 on Soyuz in 2011  
7 spacewalks for a total time of 48 hours, 32 minutes  
Total time in space: 193 days

**FRICK**, Stephen N., Captain, U.S. Navy (retired)  
Born Sept. 30, 1964, in Pittsburgh, Pa.; hometown: Gibsonia, Pa.  
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  
STS-110 on Space Shuttle Atlantis in 2002  
STS-122 on Space Shuttle Atlantis in 2008  
Total time in space: 23 days

**GAFFNEY**, F. Andrew (Drew), M.D.  
Payload specialist  
Born June 9, 1946, in Carlsbad, N.M.  
Bachelor of Arts in Psychology from the University of California, Berkeley  
Doctor of Medicine from the University of New Mexico  
STS-40 on Space Shuttle Columbia in 1991  
Total time in space: 9 days

**GARAN**, Ronald J., Jr., Colonel, U.S. Air Force (retired)  
Born Oct. 30, 1961, in Yonkers, N.Y.  
Bachelor of Science in Business Economics from State University of New York  
Master of Aeronautical Science from Embry-Riddle Aeronautical University  
Master of Science in Aerospace Engineering from the University of Florida  
STS-124 on Space Shuttle Discovery in 2008  
Expedition 27/28, launch and landing on Soyuz, in 2011  
4 spacewalks for a total time of 27 hours, 3 minutes  
Total time in space: 177 days

**GARDNER**, Guy S., Colonel, U.S. Air Force (retired)  
Born Jan. 6, 1948, in Alta-Vista, Va.  
Bachelor of Science in Engineering Sciences, Astronautics and Mathematics from the U.S. Air Force Academy  
Master of Science in Astronautics from Purdue University  
STS-27 on Space Shuttle Atlantis in 1988  
STS-35 on Space Shuttle Columbia in 1990  
Total time in space: 13 days

**GARN**, Jake, U. S. Senator  
Payload specialist  
Born Oct. 12, 1932, in Richfield, Utah  
Bachelor of Science in Business and Finance from the University of Utah  
STS-51D on Space Shuttle Discovery in 1985  
Total time in space: 7 days

**GEMAR**, Charles D., Lieutenant Colonel, U.S. Army (retired)  
Born Aug. 4, 1955, in Yankton, S.D.; hometown: Scotland, S.D.

Bachelor of Science in Engineering from the U.S. Military Academy  
STS-38 on Space Shuttle Atlantis in 1990  
STS-48 on Space Shuttle Discovery in 1991  
STS-62 on Space Shuttle Columbia in 1994  
Total time in space: 24 days

**GERNHARDT, Michael L., Ph.D.**

Born May 4, 1956, in Mansfield, Ohio; hometown: same  
Bachelor of Science in Physics from Vanderbilt University  
Master of Science and Doctor of Philosophy in Bioengineering from  
University of Pennsylvania  
STS-69 on Space Shuttle Endeavour in 1995  
STS-83 on Space Shuttle Columbia in 1997  
STS-94 on Space Shuttle Columbia in 1997  
STS-104 on Space Shuttle Atlantis in 2001  
4 spacewalks for a total time of 23 hours, 12 minutes  
Total time in space: 43 days

**GIBSON, Edward G., Ph.D.**

Born Nov. 8, 1936, in Buffalo, N.Y.  
Bachelor of Science in Engineering from the University of Rochester  
Master of Science in Engineering and Doctor of Philosophy in Engineering from  
California Institute of Technology  
Skylab 4 in 1974  
3 spacewalks for a total time of 15 hours, 21 minutes  
Total time in space: 84 days

**GIBSON, Robert L. "Hoot", Captain, U.S. Navy (retired)**

Born Oct. 30, 1946, in Cooperstown, N.Y.; hometown: Lakewood, Calif.  
Bachelor of Science in Aeronautical Engineering from California Polytechnic  
Institute  
STS-41B on Space Shuttle Challenger in 1984  
STS-61C on Space Shuttle Columbia in 1986  
STS-27 on Space Shuttle Atlantis in 1988  
STS-47 on Space Shuttle Endeavour in 1992  
STS-71 on Space Shuttle Atlantis in 1995  
Total time in space: 36 days

**GODWIN, Linda M., Ph.D.**

Born July 2, 1952, in Cape Girardeau, Mo.; hometown: Jackson, Mo  
Bachelor of Science in Mathematics & Physics from Southeast Missouri State  
Master of Science and Doctor of Philosophy in Physics from the University of  
Missouri  
STS-37 on Space Shuttle Atlantis in 1991  
STS-59 on Space Shuttle Endeavour in 1994  
STS-76 on Space Shuttle Atlantis in 1996  
STS-108 on Space Shuttle Endeavour in 2001  
2 spacewalks for a total time of 10 hours, 14 minutes  
Total time in space: 38 days

**GOOD**, Michael T., Colonel, U.S. Air Force (retired)

Born Oct. 13, 1962, in Parma, Ohio; hometown: Broadview Heights, Ohio  
Bachelor of Science and Master of Science in Aerospace Engineering from the  
University of Notre Dame

STS-125 on Atlantis Space Shuttle in 2009

STS-132 on Atlantis Space Shuttle in 2010

4 spacewalks for a total time of 29 hours, 53 minutes

Total time in space: 24 days

**GORIE**, Dominic L., Captain, U.S. Navy (retired)

Born May 2, 1957, in Lake Charles, La.

Bachelor of Science in Ocean Engineering from the U.S. Naval Academy

Master of Science in Aviation Systems from the University of Tennessee

STS-91 on Space Shuttle Discovery in 1998

STS-99 on Space Shuttle Endeavour in 2000

STS-108 on Space Shuttle Endeavour in 2001

STS-123 on Space Shuttle Endeavour in 2008

Total time in space: 48 days

**GRABE**, Ronald J., Colonel, U.S. Air Force (retired)

Born June 13, 1945, in New York, N.Y.

Bachelor of Science in Engineering Science from the U.S. Air Force Academy

STS-51J on Space Shuttle Atlantis in 1985

STS-30 on Space Shuttle Atlantis in 1989

STS-42 on Space Shuttle Discovery in 1992

STS-57 on Space Shuttle Endeavour in 1993

Total time in space: 26 days

**GREGORY**, Frederick D., Colonel, U.S. Air Force (retired)

Born Jan. 7, 1941, in Washington D.C.

Bachelor of Science from the U.S. Air Force Academy

Master's in Information Systems from George Washington University

STS-51B on Space Shuttle Challenger in 1985

STS-33 on Space Shuttle Discovery in 1989

STS-44 on Space Shuttle Atlantis in 1991

Total time in space: 18 days

**GREGORY**, William G., Lieutenant Colonel, U.S. Air Force (retired)

Born May 14, 1957, in Lockport, N.Y.

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

STS-67 on Space Shuttle Endeavour in 1995

Total time in space: 16 days

**GRUNSFELD**, John M., Ph.D.

Born Oct. 10, 1958 in Chicago, Ill.

Bachelor of Science in Physics from Massachusetts Institute of Technology

Master of Science and Doctor of Philosophy in Physics from the University of Chicago

STS-67 on Space Shuttle Endeavour in 1995

STS-81 on Space Shuttle Atlantis in 1997

STS-103 on Space Shuttle Discovery in 1999

STS-109 on Space Shuttle Columbia in 2002

STS-125 on Space Shuttle Atlantis in 2009

8 spacewalks for a total time of 58 hours, 30 minutes

Total time in space: 58 days

**GUTIERREZ**, Sidney M., Colonel, U.S. Air Force (retired)

Born June 27, 1951, in Albuquerque, N.M.

Bachelor of Science in Aeronautical Engineering from the U.S. Air Force Academy

Master of Arts in Management from Webster College

STS-40 on Space Shuttle Columbia in 1991

STS-59 on Space Shuttle Endeavour in 1994

Total time in space: 20 days

**HAISE**, Fred W., Jr.

Born Nov. 14, 1933, in Biloxi, Miss.

Bachelor of Science in Aeronautical Engineering from the University of Oklahoma

ALT tests 1, 3, 5

Apollo 13 in 1970

Total time in space: 5 days

**HALSELL**, James D., Jr., Colonel, U.S. Air Force (retired)

Born Sept. 29, 1956, in Monroe, La.

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

STS-65 on Space Shuttle Columbia in 1994

STS-74 on Space Shuttle Atlantis in 1995

STS-83 on Space Shuttle Columbia in 1997

STS-94 on Space Shuttle Columbia in 1997

STS-101 on Space Shuttle Atlantis in 2000

Total time in space: 52 days

**HAM**, Kenneth T., Captain, U.S. Navy

Born Dec. 12, 1964, in Plainfield, N.J.

Bachelor of Science in Aerospace Engineering from the U.S. Naval Academy

Master of Science in Aeronautical Engineering from the Naval Postgraduate School

STS-124 on Space Shuttle Discovery in 2008

STS-132 on Space Shuttle Atlantis in 2010

Total time in space: 25 days

**HAMMOND**, L. Blaine, Jr., Colonel, U.S. Air Force (retired)

Born Jan. 16, 1952, in Savannah, Ga.; hometown: St. Louis, Mo.

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

STS-39 on Space Shuttle Discovery in 1991

STS-64 on Space Shuttle Discovery in 1994

Total time in space: 19 days

**HARBAUGH, Gregory J.**

Born April 15, 1956, in Cleveland, Ohio; hometown: Willoughby, Ohio

Bachelor of Science in Aeronautical & Astronautical engineering from Purdue

Master of Science in Physical Science from the University of Houston-Clear Lake

STS-39 on Space Shuttle Discovery in 1991

STS-54 on Space Shuttle Endeavour in 1993

STS-71 on Space Shuttle Atlantis in 1995

STS-82 on Space Shuttle Discovery in 1997

3 spacewalks for a total time of 18 hours, 29 minutes

Total time in space: 34 days

**HARRIS, Bernard A., Jr., M.D.**

Born June 26, 1956, in Temple, Texas

Bachelor of Science in Biology from the University of Houston

Doctor of Medicine from Texas Tech University

STS-55 on Space Shuttle Columbia in 1993

STS-63 on Space Shuttle Discovery in 1995

1 spacewalk for a total time of 4 hours, 39 minutes

Total time in space: 18 days

**HART, Terry J.**

Born Oct. 27, 1946, in Pittsburgh, Pa.

Bachelor of Science in Mechanical Engineering from Lehigh University

Master of Science in Mechanical Engineering from Massachusetts Institute of Technology

Master of Science in Electrical Engineering from Rutgers University

STS-41C on Space Shuttle Challenger in 1984

Total time in space: 6 days

**HAUCK, Frederick H., Captain, U.S. Navy (retired)**

Born April 11, 1941, in Long Beach, Calif.

Bachelor of Science in Physics from Tufts University

Master of Science in Nuclear Engineering from Massachusetts Institute of Technology

STS-7 on Space Shuttle Challenger in 1983

STS-51A on Space Shuttle Discovery in 1984

STS-26 on Space Shuttle Discovery in 1988

Total time in space: 18 days

**HAWLEY, Steven A., Ph. D.**

Born Dec. 12, 1951, in Ottawa, Kan.; hometown: Salina, Kan.

Bachelor of Arts in Physics & Astronomy from the University of Kansas

Doctor of Philosophy in Astronomy & Astrophysics from the University of California

STS-41D on Space Shuttle Discovery in 1984

STS-61C on Space Shuttle Columbia in 1986

STS-31 on Space Shuttle Discovery in 1990

STS-82 on Space Shuttle Discovery in 1997

STS-93 on Space Shuttle Columbia in 1999  
Total time in space: 32 days

**HELMS**, Susan J., Lieutenant General, U.S. Air Force  
Born Feb. 26, 1958, in Charlotte, N.C.; hometown: Portland, Ore.  
Bachelor of Science in Aeronautical Engineering from the U.S. Air Force Academy  
Master of Science in Aeronautics and Astronautics from Stanford University  
STS-54 on Space Shuttle Endeavour in 1993  
STS-64 on Space Shuttle Discovery in 1994  
STS-78 on Space Shuttle Columbia in 1996  
STS-101 on Space Shuttle Atlantis in 2000  
Expedition 2: STS-102 Discovery (launch) and STS-105 Discovery (landing) in 2001  
1 spacewalk for a total time of 8 hours, 55 minutes  
Total time in space: 210 days

**HENNEN**, Thomas J., Chief Warrant Officer, U. S. Army (retired)  
Payload specialist  
Born Aug. 17, 1952, in Albany, Ga.; hometown: Columbus, Ohio  
STS-44 on Space Shuttle Atlantis in 1991  
Total time in space: 6 days

**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  
STS-44 on Space Shuttle Atlantis in 1991  
STS-55 on Space Shuttle Columbia in 1993  
STS-70 on Space Shuttle Discovery in 1995  
STS-78 on Space Shuttle Columbia in 1996  
Total time in space: 42 days

**HERNANDEZ**, Jose M.  
Born Aug. 7, 1962, in French Camp, Calif.; hometown: Stockton, Calif.  
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  
STS-128 on Space Shuttle Discovery in 2009  
Total time in space: 13 days

**HERRINGTON**, John B., Commander, U.S. Navy (retired)  
Born Sept. 14, 1958, in Wetumka, Okla.  
Bachelor of Science in Applied Mathematics from the University of Colorado  
Master of Science in Aeronautical Engineering from the U.S. Naval Postgraduate  
School  
STS-113 on Space Shuttle Endeavour in 2002  
3 spacewalks for a total time of 19 hours, 55 minutes  
Total time in space: 13 days

**HIEB**, Richard J.  
Born Sept. 21, 1955, in Jamestown, N.D.

Bachelor of Arts in Mathematics and Physics from Northwest Nazarene College  
Master of Science in Aerospace Engineering from the University of Colorado  
STS-39 on Space Shuttle Discovery in 1991  
STS-49 on Space Shuttle Endeavour in 1992  
STS-65 on Space Shuttle Columbia in 1994  
3 spacewalks for a total time of 17 hours, 42 minutes  
Total time in space: 31 days

**HIGGINBOTHAM, Joan E.**

Born Aug. 3, 1964 in Chicago, Ill.  
Bachelor of Science in Electrical Engineering from Southern Illinois University-  
Carbondale  
Master's in Management from the Florida Institute of Technology  
Master's in Space Systems from Florida Institute of Technology  
STS-116 on Space Shuttle Discovery in 2006  
Total time in space: 12 days

**HILMERS, David O., Colonel, U.S Marine Corps (retired)**

Born Jan. 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  
STS-51J on Space Shuttle Atlantis in 1985  
STS-26 on Space Shuttle Discovery in 1988  
STS-36 on Space Shuttle Atlantis in 1990  
STS-42 on Space Shuttle Discovery in 1992  
Total time in space: 20 days

**HIRE, Kathryn P. "Kay," Captain, U.S Navy Reserve**

Born Aug. 26, 1959, in Mobile, Ala.; hometown: Merritt Island, Fla.  
Bachelor of Science in Engineering & Management from the U.S Naval Academy  
Master of Science in Space Technology from Florida State Institute of Technology  
STS-90 on Space Shuttle Columbia in 1998  
STS-130 on Space Shuttle Endeavour in 2010  
Total time in space: 29 days

**HOBBAUGH, Charles O., Colonel, U.S. Marine Corps (retired)**

Born Nov. 6, 1961, in Bar Harbor, Maine  
Bachelor of Science in Aerospace Engineering from the U.S. Naval Academy  
STS-104 on Space Shuttle Atlantis in 2001  
STS-118 on Space Shuttle Endeavour in 2007  
STS-129 on Space Shuttle Atlantis in 2009  
Total time in space: 36 days

**HOFFMAN, Jeffrey A., Ph.D.**

Born Nov. 2, 1944, in Brooklyn, N.Y.; hometown: Scarsdale, N.Y.  
Bachelor of Arts in Astronomy from Amherst College  
Master's Degree in Materials Science from Rice University  
Doctor of Philosophy in Astrophysics from Harvard University  
STS-51D on Space Shuttle Discovery in 1985  
STS-35 on Space Shuttle Columbia in 1990  
STS-46 on Space Shuttle Atlantis in 1992  
STS-61 on Space Shuttle Endeavour in 1993

STS-75 on Space Shuttle Columbia in 1996  
4 spacewalks for a total time of 25 hours, 8 minutes  
Total time in space: 50 days

**HOLMQUEST**, Donald L., Ph.D., M.D., J.D.

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 Doctorate from the University of Houston  
Total time in space: 0

**HOROWITZ**, Scott J., Colonel, Ph.D., U.S. Air Force (retired)

Born March 24, 1957, in Philadelphia, Pa.; hometown: Thousand Oaks, Calif.  
Bachelor of Science in Engineering from California State University-Northridge  
Master of Science in Aerospace Engineering from Georgia Institute of Technology  
Doctor of Philosophy in Aerospace Engineering from Georgia Institute of Technology  
STS-75 on Space Shuttle Columbia in 1996  
STS-82 on Space Shuttle Discovery in 1997  
STS-101 on Space Shuttle Atlantis in 2000  
STS-105 on Discovery in 2001  
Total time in space: 47 days

**HUGHES-FULFORD**, Millie, Ph.D.

Payload specialist  
Born Dec. 21, 1945, in Mineral Wells, Texas  
Bachelor of Science in Chemistry and Biology from Tarleton State University  
Doctor of Philosophy from Texas Woman's University  
STS-40 on Space Shuttle Columbia in 1991  
Total time in space: 9 days

**HURLEY**, Douglas G., Colonel, U.S. Marine Corps (retired)

Born Oct. 21, 1966 in Endicott, N.Y.; hometown: Apalachin, N.Y.  
Bachelor of Science in Civil Engineering from Tulane University  
STS-127 on Space Shuttle Endeavour in 2009  
STS-135 on Space Shuttle Atlantis in 2011  
SpaceX Crew Dragon Demo 2 in 2020  
Total time in space: 64 days

**IVINS**, Marsha S.

Born April 15, 1951, in Baltimore, Md.  
Bachelor of Science in Aerospace Engineering from the University of Colorado  
STS-32 on Space Shuttle Columbia in 1990  
STS-46 on Space Shuttle Atlantis in 1992  
STS-62 on Space Shuttle Columbia in 1994  
STS-81 on Space Shuttle Atlantis in 1997  
STS-98 on Space Shuttle Atlantis in 2001  
Total time in space: 55 days



**JEMISON, Mae C., M.D.**

Born Oct. 17, 1956, in Decatur, Ala.; hometown: Chicago, Ill.  
Bachelor of Science in Chemical Engineering from Stanford University  
Doctor of Medicine from Cornell University  
STS-47 on Space Shuttle Endeavour in 1992  
Total time in space: 7 days

**JERNIGAN, Tamara E., Ph.D.**

Born May 7, 1959, in Chattanooga, Tenn.  
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  
STS-40 on Space Shuttle Columbia in 1991  
STS-52 on Space Shuttle Columbia in 1992  
STS-67 on Space Shuttle Endeavour in 1995  
STS-80 on Space Shuttle Columbia in 1996  
STS-96 on Space Shuttle Discovery in 1999  
1 spacewalk with total time of 7 hours, 55 minutes  
Total time in space: 62 days

**JETT, Brent W., Captain, U.S. Navy (retired)**

Born Oct. 5, 1958, in Pontiac, Mich.; hometown: Ft. Lauderdale, Fla.  
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  
STS-72 on Space Shuttle Endeavour in 1996  
STS-81 on Space Shuttle Atlantis in 1997  
STS-97 on Space Shuttle Endeavour in 2000  
STS-115 on Space Shuttle Atlantis in 2006  
Total time in space: 41 days

**JOHNSON, Gregory C., Captain, U.S. Navy (retired)**

Born July 30, 1954, in Seattle, Wash.  
Bachelor of Science in Aerospace Engineering from the University of Washington  
STS-125 on Space Shuttle Atlantis in 2009  
Total time in space: 12 days

**JOHNSON, Gregory H., Colonel, U.S. Air Force (retired)**

Born May 12, 1962, in South Ruislip, Middlesex, U.K.  
Bachelor of Science in Aeronautical Engineering from the U.S. Air Force Academy  
Master of Science in Flight Structures Engineering from Columbia University  
Master of Business Administration from the University of Texas  
STS-123 on Space Shuttle Endeavour in 2008  
STS-134 on Space Shuttle Endeavour in 2011  
Total time in space: 31 days

**JONES, Thomas D., Ph.D.**

Born Jan. 22, 1955, in Baltimore, Md.; hometown: Essex, Md.  
Bachelor of Science in Basic Sciences from the U.S. Air Force Academy

Doctor on Philosophy in Planetary Science from the University of Arizona  
STS-59 on Space Shuttle Endeavour in 1994  
STS-68 on Space Shuttle Endeavour in 1994  
STS-80 on Space Shuttle Columbia in 1996  
STS-98 on Space Shuttle Atlantis in 2001  
3 spacewalks for a total time of 19 hours, 48 minutes  
Total time in space: 53 days

**KAVANDI**, Janet L., Ph.D.

Born July 17, 1959, in Springfield, Mo.  
Bachelor of Science in Chemistry from Missouri Southern State University  
Master of Science in Chemistry from the Missouri University of Science and Technology  
Doctor of Philosophy in Analytical Chemistry from the University of Washington  
STS-91 on Space Shuttle Discovery in 1998  
STS-99 on Space Shuttle Endeavour in 2000  
STS-104 on Space Shuttle Atlantis in 2001  
Total time in space: 33 days

**KELLY**, Mark E., Captain, U.S. Navy (retired)

Born Feb. 21, 1964, in Orange, N.J.; hometown: West Orange, N.J.  
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  
STS-108 on Space Shuttle Endeavour in 2001  
STS-121 on Space Shuttle Discovery in 2006  
STS-124 on Space Shuttle Discovery in 2008  
STS-134 on Space Shuttle Endeavour in 2011  
Total time in space: 54 days

**KELLY**, Scott J., Captain, U.S. Navy (retired)

Born Feb. 21, 1964, in Orange, N.J.  
Bachelor of Science in Electrical Engineering from the State University of New York Maritime College  
Master of Science in Aviation Systems from the University of Tennessee, Knoxville  
STS-103 on Space Shuttle Discovery in 1999  
STS-118 on Space Shuttle Endeavour in 2007  
Expedition 26, launch and landing on Soyuz, in 2010  
3 spacewalks for a total time of 18 hours, 20 minutes  
Total time in space: 520 days

**KERWIN**, Joseph P., M.D., Captain, U.S. Navy (retired)

Born Feb. 19, 1932, in Oak Park, Ill.  
Bachelor of Arts in Philosophy from College of the Holy Cross  
Doctor of Medicine from Northwestern University Medical School  
Skylab 2 in 1973  
1 spacewalk for a total time of 3 hours, 25 minutes  
Total time in space: 28 days

**KILRAIN** (Still), Susan L., Commander, U.S. Navy (retired)

Born October 24, 1961, in Augusta, Ga.

Bachelor of Science in Aeronautical Engineering from Embry-Riddle University

Master of Science in Aerospace Engineering from Georgia Institute of Technology

STS-83 on Space Shuttle Columbia in 1997

STS-94 on Space Shuttle Columbia in 1997

Total time in space: 19 days

**KIMBROUGH**, Robert "Shane", Colonel, U.S. Army

Born June 4, 1967, in Killeen, Texas; hometown: same

Bachelor of Science in Aerospace Engineering from the U.S. Military Academy

Master of Science in Operations Research from Georgia Institute of Technology

STS-126 on Space Shuttle Endeavour in 2008

Expedition 49/50 on Soyuz in 2016-2017

Crew-2 and Expedition 64/65 in 2021

9 spacewalks for a total time of 59 hours, 28 minutes as of August 31, 2021

Total time in space: 388 days

**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 the U. S. Army War College

Expedition 20: STS-127 Space Shuttle Endeavour (launch) and STS-128 Space Shuttle Discovery (landing) in 2009

Expedition 46/47 in 2015-2016

3 spacewalks for a total time of 13 hours, 31 minutes

Total time in space: 58 days

**KREGEL**, Kevin R.

Born Sept. 16, 1956, in New York City; hometown: Amityville, N.Y.

Bachelor of Science in Astronautical Engineering from the U. S. Air Force Academy

Master of Public Administration from Troy State University

STS-70 on Space Shuttle Discovery in 1995

STS-78 on Space Shuttle Columbia in 1996

STS-87 on Space Shuttle Columbia in 1997

STS-99 on Space Shuttle Endeavour in 2000

Total time in space: 52 days

**LAWRENCE**, Wendy B., Captain, U.S. Navy (retired)

Born July 2, 1959, in Jacksonville, Fla.

Bachelor of Science in Ocean Engineering from the U.S. Naval Academy

Master of Science in Ocean Engineering from Massachusetts Institute of Technology & Woods Hole Oceanographic Institution

STS-67 on Space Shuttle Endeavour in 1995

STS-86 on Space Shuttle Atlantis in 1997

STS-91 on Space Shuttle Discovery in 1998

STS-114 on Space Shuttle Discovery in 2005

Total time in space: 50 days

**LEE**, Mark C., Colonel, U.S. Air Force (retired)

Born Aug. 14, 1952, in Viroqua, Wis.

Bachelor of Science in Civil Engineering from the U.S Air Force Academy

Master of Science in Mechanical Engineering from Massachusetts Institute of Technology

STS-30 on Space Shuttle Atlantis in 1989

STS-47 on Space Shuttle Endeavour in 1992

STS-64 on Space Shuttle Discovery in 1994

STS-82 on Space Shuttle Discovery in 1997

4 spacewalks for a total time of 26 hours, 1 minute

Total time in space: 32 days

**LEESTMA**, David C., Captain, U.S. Navy (retired)

Born May 6, 1949, in Muskegon, Mich.

Bachelor of Science in Aeronautical Engineering from the U.S. Naval Academy

Master of Science in Aeronautical Engineering from the U.S. Naval Postgraduate School

STS-41-G on Space Shuttle Challenger in 1984

STS-28 on Space Shuttle Columbia in 1989

STS-45 on Space Shuttle Atlantis in 1992

1 spacewalk for a total time of 3 hours, 29 minutes

Total time in space: 22 days

**LESLIE**, Fred W., Ph.D.

Payload specialist

Born Dec. 19, 1951, in Ancon, Panama

Bachelor of Science in Engineering Science from the University of Texas

Doctor of Philosophy and Master's in Meteorology from the University of Oklahoma

STS-73 on Space Shuttle Columbia in 1995

Total time in space: 15 days

**LICHTENBERG**, Byron K., Ph.D.

Payload specialist

Born Feb. 19, 1948, in Stroudsburg, Pa.

Bachelor of Science in Aerospace Engineering from Brown University

Master of Science in Mechanical Engineering from Massachusetts Institute of Technology

Doctor of Science Biomedical Engineering from Massachusetts Institute of Technology

STS-9 on Space Shuttle Columbia in 1983

STS-45 on Space Shuttle Atlantis in 1992

Total time in space: 19 days

**LIND**, Don L., Ph.D.

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-Berkley

STS-51B on Space Shuttle Challenger in 1984

Total time in space: 7 days,

**LINDSEY**, Steven W., Colonel, U.S. Air Force (retired)

Born Aug. 24, 1960, in Arcadia, Calif.; hometown: Temple City, Calif.

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

STS-87 on Space Shuttle Columbia in 1997

STS-95 on Space Shuttle Discovery in 1998

STS-104 on Space Shuttle Atlantis in 2001

STS-121 on Space Shuttle Discovery in 2006

STS-133 on Space Shuttle Discovery in 2011

Total time in space: 62 days

**LINENGER**, Jerry M., M.D., Ph.D., Captain, U.S. Navy (retired)

Born Jan. 16, 1955, in Mount Clemens, Mich.; hometown: Eastpointe, Mich.

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

STS-64 on Space Shuttle Discovery in 1995

STS-81 Space Shuttle Atlantis (launch) and STS-84 Space Shuttle Atlantis (landing) in 1997

1 spacewalk for a total time of 4 hours, 59 minutes

Total time in space: 143 days

**LINTERIS**, Gregory T., Ph.D.

Payload specialist

Born Oct. 4, 1957, in Demarest, N.J.

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

STS-83 on Space Shuttle Columbia in 1997

STS 94 on Space Shuttle Columbia in 1997

Total time in space: 19 days

**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

STS-111 on Space Shuttle Endeavour in 2002

STS-113 on Space Shuttle Endeavour in 2002

Total time in space: 27 days

**LOPEZ-ALEGRIA**, Michael E., Captain, U.S. Navy (retired)

Born May 30, 1958, in Madrid, Spain; hometown: Mission Viejo, Calif.

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 Harvard University Kennedy School of Government Program for Senior Executives in National and International Security  
STS-73 on Space Shuttle Columbia in 1995  
STS-92 on Space Shuttle Discovery in 2000  
STS-113 on Space Shuttle Endeavour in 2002  
Expedition 14 on Soyuz in 2006  
10 spacewalks for a total time of 67 hours, 40 minutes  
Total time in space: 257 days

**LORIA**, Christopher J. “Gus”, Colonel, U.S. Marine Corps (retired)  
Born July 9, 1960, in Belmont, Mass.; hometown: League City, Texas  
Bachelor of Science in General Engineering from the U.S. Naval Academy  
Master’s in Public Administration from Harvard University John F. Kennedy School of Government  
Total time in space: 0

**LOUSMA**, Jack R., Colonel, U.S. Marine Corps (retired)  
Born Feb. 29, 1936, in Grand Rapids, Mich.  
Bachelor of Science in Aeronautical Engineering from the University of Michigan  
Master in Aeronautical Engineering from the U.S. Naval Postgraduate School  
Skylab 3 in 1973  
STS-3 on Space Shuttle Columbia in 1983  
2 spacewalks for a total time of 11 hours, 2 minutes  
Total time in space: 67 days

**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  
Gemini 7 in 1965  
Gemini 12 in 1966  
Apollo 8 in 1968  
Apollo 13 in 1970  
Total time in space: 29 days

**LU**, Edward T., Ph.D.  
Born July 1, 1963, in Springfield, Mass.; hometown: Honolulu, Hawaii  
Bachelor of Science in Electrical Engineering from Cornell University  
Doctor of Philosophy in Applied Physics from Stanford University  
STS-84 on Space Shuttle Atlantis in 1997  
STS-106 on Space Shuttle Atlantis in 2000  
Expedition 7 on Soyuz in 2003  
1 spacewalk for a total time of 6 hours 14 minutes  
Total time in space: 206 days

**LUCID**, Shannon W., Ph.D.  
Born Jan. 14, 1943, in Shanghai, China; hometown: Bethany, Okla.  
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  
STS-51G on Space Shuttle Discovery in 1985  
STS-34 on Space Shuttle Atlantis in 1989  
STS-43 on Space Shuttle Atlantis in 1991  
STS-58 on Space Shuttle Columbia in 1993  
Mir: STS-76 on Atlantis (launch) and STS-79 on Atlantis (landing) in 1996  
Total time in space: 223 days

**MAGNUS**, Sandra H., Ph.D.

Born Oct. 30, 1964, in Belleville, Ill.  
Bachelor of Science in Physics from the University of Missouri-Rolla  
Master of Science in Electrical Engineering from the Missouri University of Science and Technology  
Doctor of Philosophy in Materials Science and Engineering from Georgia Institute of Technology  
STS-112 on Space Shuttle Atlantis in 2002  
Expedition 18: STS-126 on Space Shuttle Endeavour (launch) and STS-119 on Space Shuttle Discovery (landing) in 2009  
STS-135 on Space Shuttle Atlantis in 2011  
Total time in space: 157 days

**MARSHBURN**, Thomas H., M.D.

Born Aug. 29, 1960, in Statesville, N.C.; hometown: same  
Bachelor of Science in Physics from Davidson College  
Master of Science in Engineering Physics from University of Virginia  
Doctor of Medicine from Wake Forest University  
Master's in Medical Science from University of Texas Medical Branch-Galveston  
STS-127 on Space Shuttle Endeavour in 2009  
Expedition 34/35 on Soyuz in 2013  
Crew-3 and Expedition 66/67 on Crew Dragon Endurance in 2021-2022  
5 spacewalks for a total time of 31 hours, 1 minutes  
Total time in space: 337 Days

**MASSIMINO**, Michael J., Ph.D.

Born Aug. 19, 1962, in Oceanside, N.Y.; hometown: Franklin Square, N.Y.  
Bachelor of Science in Industrial Engineering from Columbia University  
Master of Science in Technology and Policy from Massachusetts Institute of Technology  
Master of Science in Mechanical Engineering from Massachusetts Institute of Technology  
Doctor of Philosophy in Mechanical Engineering from Massachusetts Institute of Technology  
STS-109 on Space Shuttle Columbia in 2002  
STS-125 on Space Shuttle Atlantis in 2009  
4 spacewalks with total time of 30 hours, 44 minutes  
Total time in space: 23 days

**MASTRACCHIO**, Richard A.

Born Feb. 11, 1960, in Waterbury, Conn.

Bachelor of Science in Electrical Engineering and Computer Science from the University of Connecticut  
Master of Science in Electrical Engineering from Rensselaer Polytechnic Institute  
Master of Science in Physical Sciences from the University of Houston-Clear Lake  
STS-106 on Space Shuttle Atlantis in 2000  
STS-118 on Space Shuttle Endeavour in 2007  
STS-131 on Space Shuttle Discovery in 2010  
9 spacewalks for a total time of 53 hours, 4 minutes  
Total time in space: 39 days

**MATTINGLY**, Thomas K., II, Rear Admiral, U.S. Navy (retired)

Born March 17, 1936, in Chicago, Ill.  
Bachelor of Science in Aeronautical Engineering from Auburn University  
Apollo 16 in 1972  
STS-4 on Space Shuttle Columbia in 1982  
STS-51C on Space Shuttle Discovery in 1985  
1 spacewalk for a total time of 1 hour, 24 minutes  
Total time in space: 21 days

**McARTHUR**, William S. "Bill," Jr., Colonel, U.S. Army (retired)

Born July 26, 1951, in Laurinburg, N.C.; hometown: Wakulla, N.C.  
Bachelor of Science in Applied Science & Engineering from the U.S. Military Academy  
Master of Science in Aerospace Engineering from Georgia Institute of Technology  
STS-58 on Space Shuttle Columbia in 1993  
STS-74 on Space Shuttle Atlantis in 1995  
STS-92 on Space Shuttle Discovery in 2000  
Expedition 12 on Soyuz in 2005  
4 spacewalks for a total time of 24 hours, 21 minutes  
Total time in space: 224 days

**McBRIDE**, Jon A., Captain, U.S. Navy (retired)

Born Aug. 14, 1943, in Charleston, W. Va.; hometown: Beckley, W.V.  
Bachelor of Science in Aeronautical Engineering from the U.S. Naval Postgraduate School  
STS-41G on Space Shuttle Challenger in 1984  
Total time in space: 8 days, 5 hours, 23 minutes

**McCULLEY**, Michael J., Captain, U.S. Navy (retired)

Born Aug. 4, 1943, in San Diego, Calif.; hometown: Livingston, Tenn.  
Bachelor of Science in Metallurgical Engineering from Purdue University  
Master of Science in Metallurgical Engineering from Purdue University  
STS-34 on Space Shuttle Atlantis in 1989  
Total time in space: 4 days

**McMONAGLE**, Donald R., Colonel, U.S. Air Force (retired)

Born May 14, 1952, in Flint, Mich.  
Bachelor of Science in Astronautical Engineering for the U.S. Air Force Academy  
Master of Science in Mechanical Engineering from California State University-Fresno



STS-39 on Space Shuttle Discovery in 1991  
STS-54 on Space Shuttle Endeavour in 1993  
STS-66 on Space Shuttle Atlantis in 1994  
Total time in space: 25 days

**MEADE**, Carl J., Colonel, U.S. Air Force (retired)  
Born Nov. 16, 1950 at Chanute Air Force Base, Ill.  
Bachelor of Science in Electronics Engineering from the University of Texas  
Master of Science in Electronics Engineering from California Institute of Technology  
STS-38 on Space Shuttle Atlantis in 1990  
STS-50 on Space Shuttle Columbia in 1992  
STS-64 on Space Shuttle Discovery in 1994  
1 spacewalk for a total time of 6 hours, 51 minutes  
Total time in space: 29 days

**MELNICK**, Bruce E., Commander, U.S. Coast Guard (retired)  
Born Dec. 5, 1949, in New York, N.Y.  
Bachelor of Science in Engineering from the U.S Coast Guard Academy  
Master of Science in Aeronautical Systems from West Florida University  
STS-41 on Space Shuttle Discovery in 1990  
STS-49 on Space Shuttle Endeavour in 1992  
Total time in space: 12 days

**MELVIN**, Leland D.  
Born Feb. 15, 1964, in Lynchburg, Va.  
Bachelor of Science in Chemistry from the University of Richmond  
Master of Science in Materials Science Engineering from the University of Virginia  
STS-122 on Space Shuttle Atlantis in 2008  
STS-129 on Space Shuttle Atlantis in 2009  
Total time in space: 23 days

**METCALF-LINDENBURGER**, Dorothy M.  
Educator Astronaut  
Born May 2, 1975, in Colorado Springs, Colo.; hometown: Fort Collins, Colo.  
Bachelor of Arts in Geology from Whitman College  
STS-131 on Space Shuttle Discovery in 2010  
Total time in space: 15 days

**MORGAN**, Barbara R.  
Born Nov. 28, 1951, in Fresno, Calif.; hometowns: Fresno, Calif. and McCall, Idaho  
Bachelor of Arts in Human Biology from Stanford University  
Teaching credentials from the College of Notre Dame – Belmont, California  
STS-118 on Space Shuttle Endeavour in 2007  
Total time in space: 12 days

**MULLANE**, Richard M. (Mike), Colonel, U.S. Air Force (retired)  
Born Sept. 10, 1945, in Wichita Falls, Texas; hometown: Albuquerque, N.M.  
Bachelor of Science in Military Engineering from the U.S. Military Academy  
Master of Science in Aeronautical Engineering from the U.S Air Force Institute of  
Technology

STS-41D on Space Shuttle Discovery in 1984  
STS-27 on Space Shuttle Atlantis in 1988  
STS-36 on Space Shuttle Atlantis in 1990  
Total time in space: 14 days

**MUSGRAVE**, Story, M.D.

Born Aug. 19, 1935, in Boston, Mass.; hometown: Lexington, Ky.  
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  
STS-6 on Space Shuttle Challenger in 1983  
STS-51F on Space Shuttle Challenger in 1985  
STS-33 on Space Shuttle Discovery in 1989  
STS-44 on Space Shuttle Atlantis in 1991  
STS-61 on Space Shuttle Endeavour in 1993  
STS-80 on Space Shuttle Columbia in 1996  
4 spacewalks for a total time of 26 hours, 12 minutes  
Total time in space: 53 days

**NELSON**, Bill, J.D., U. S. senator

Payload specialist  
Born Sept. 29, 1942, in Miami, Fla.  
Bachelor's degree from Yale University  
Law degree from the University of Virginia  
STS-61C on Space Shuttle Columbia in 1985  
Total time in space: 6 days

**NELSON**, George D., Ph.D.

Born July 13, 1950, in Charles City, Iowa; hometown: Willmar, Minn.  
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  
STS-41C on Space Shuttle Challenger in 1984  
STS-6-C on Space Shuttle Columbia in 1986  
STS-26 on Space Shuttle Discovery in 1988  
2 spacewalks for a total time of 9 hour, 22 minutes  
Total time in space: 17 days

**NEWMAN**, James H., Ph.D.

Born Oct. 16, 1956, in Trust Territory, Pacific Islands; hometown: San Diego, Calif.  
Bachelor of Arts in Physics from Dartmouth College  
Master of Arts in Physics from Rice University  
Doctor of Philosophy in Physics from Rice University  
STS-51 on Space Shuttle Discovery in 1993  
STS-69 on Space Shuttle Endeavour in 1995  
STS-88 on Space Shuttle Endeavour in 1998

STS-109 on Space Shuttle Columbia in 2002  
6 spacewalks for a total time of 43 hours, 13 minutes  
Total time in space: 43 days

**NOREIGA**, Carlos I., Lieutenant Colonel, U.S. Marine Corps (retired)  
Born Oct. 8, 1959, in Lima, Peru; hometown: Santa Clara, Calif.  
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  
STS-84 on Space Shuttle Atlantis in 1987  
STS-97 on Space Shuttle Endeavour in 2000  
3 spacewalks for a total time of 19 hours, 20 minutes  
Total time in space: 20 days

**NOWAK**, Lisa M. Captain, U.S. Navy (retired)  
Born May 10, 1963, in Washington, D.C.; hometown: Rockville, Md.  
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  
STS-121 on Space Shuttle Discovery in 2006  
Total time in space: 12 days

**NYBERG**, Karen L., Ph.D.  
Born Oct. 7, 1969, in Parker's Prairie, Minn.; hometown: Vining, Minn.  
Bachelor of Science in Mechanical Engineering from the University of North Dakota  
Master of Science and Doctor of Philosophy in Mechanical Engineering from the University of Texas  
STS-124 on Space Shuttle Discovery in 2008  
Expedition 36/37 on Soyuz in 2013  
Total time in space: 180 days

**OCHOA**, Ellen, Ph.D.  
Born May 10, 1958, in Los Angeles; hometown: La Mesa, Calif.  
Bachelor of Science in Physics from San Diego State University  
Master of Science and Doctor of Philosophy in Electrical Engineering from Stanford University  
STS-56 on Space Shuttle Discovery in 1993  
STS-66 on Space Shuttle Atlantis in 1994  
STS-96 on Space Shuttle Discovery in 1999  
STS-110 on Space Shuttle Atlantis in 2002  
Total time in space: 40 days

**O'CONNOR**, Bryan D., Colonel, U.S. Marine Corps (retired)  
Born Sept. 6, 1946, in Orange, Calif.; hometown: Twentynine Palms, Calif.  
Bachelor of Science in Engineering from the U.S. Naval Academy  
Master of Science in Aeronautical Systems from West Florida University  
Graduated Naval Safety School from the Naval Postgraduate School  
STS-61B on Space Shuttle Atlantis in 1985  
STS-40 on Space Shuttle Columbia in 1991

Total time in space: 15 days

**OEFLEIN**, William A., Commander, U.S. Navy (retired)

Born March 29, 1965, in Ft. Belvoir, Va.; hometown: Anchorage, Alaska  
Bachelor of Science in Electrical Engineering from Oregon State University  
Master of Science in Aviation Systems from the University of Tennessee Space  
Institute  
STS-116 on Space Shuttle Discovery in 2006  
Total time in space: 12 days, 20 hours, 45 minutes

**OLIVAS**, John D., Ph.D.

Born May 25, 1966, in North Hollywood, Calif.; hometown: El Paso, Texas  
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  
STS-117 on Space Shuttle Atlantis in 2007  
STS-128 on Space Shuttle Discovery in 2009  
5 spacewalks for a total time of 34 hours, 28 minutes  
Total time in space: 27 days

**OSWALD**, Stephen S.

Born June 30, 1951, in Seattle, Wash.; hometown: Bellingham, Wash.  
Bachelor of Science in Aerospace Engineering from the U.S. Naval Academy  
STS-42 on Space Shuttle Discovery in 1992  
STS-56 on Space Shuttle Discovery in 1993  
STS-67 on Space Shuttle Endeavour in 1995  
Total time in space: 33 days

**PAILES**, William A., Colonel, U.S. Air Force (retired)

Payload Specialist  
Born June 26, 1952, in Hackensack, N.J.; hometown: Kinnelon, N.J.  
Bachelor of Science in Computer Science from the U. S. Air Force Academy  
Master of Science in Computer Science from Texas A&M University  
STS-51J on Space Shuttle Atlantis in 1985  
Total time in space: 4 days

**PARAZYNSKI**, Scott E., M.D.

Born July 28, 1961, in Little Rock, Ark.; hometowns: Palo Alto, Calif. and  
Evergreen, Colo.  
Bachelor of Science in Biology from Stanford University  
Doctor of Medicine from Stanford University  
STS-66 on Space Shuttle Atlantis in 1994  
STS-86 on Space Shuttle Atlantis in 1997  
STS-95 on Space Shuttle Discovery in 1998  
STS-100 on Space Shuttle Endeavour in 2001  
STS-120 on Space Shuttle Discovery in 2007  
7 spacewalks for a total time of 47 hours, 5 minutes  
Total time in space: 58 days

**PARKER, Robert A. R., Ph.D.**

Born Dec. 14, 1936, in New York City  
Bachelor of Arts in Astronomy and Physics from Amherst College  
Doctor of Philosophy in Astronomy from California Institute of Technology  
STS-9 on Space Shuttle Columbia in 1983  
STS-35 on Space Shuttle Columbia in 1990  
Total time in space: 19 days

**PATRICK, Nicholas J.M., Ph.D.**

Born March 22, 1964, in Saltburn, North Yorkshire, United Kingdom; hometowns:  
London, England, and Rye, N.Y.  
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 Massachusetts Institute of  
Technology  
Doctor of Philosophy in Mechanical Engineering from Massachusetts Institute of  
Technology  
STS-116 on Space Shuttle Discovery in 2006  
STS-130 on Space Shuttle Endeavour in 2010  
3 spacewalks for a total time of 18 hours, 14 minutes  
Total time in space: 26 days

**PAWELCZYK, James A., Ph.D.**

Payload Specialist  
Born Sept. 20, 1960, in Buffalo, N.Y.; hometown: Elma, N.Y.  
Bachelor of Arts in Biology and Psychology from the University of Rochester  
Master of Science in Physiology from Pennsylvania State University  
Doctor of Philosophy in Biology from the University of North Texas  
STS-90 on Space Shuttle Columbia in 1998  
Total time in space: 15 days

**PAYTON, Gary E., major, U.S. Air Force (retired)**

Payload Specialist  
Born June 20, 1948, in Rock Island, Ill.  
Bachelor of Science in Astronautical Engineering the U. S. Air Force Academy  
Master of Science in Astronautical and Aeronautical Engineering from Purdue  
University  
STS-51C on Space Shuttle Discovery in 1985  
Total time in space: 3 days

**PHILLIPS, John L., Captain, Ph.D., U.S. Naval Reserves (retired)**

Born April 15, 1951, in Fort Belvoir, Va.; hometown: Scottsdale, Ariz.  
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  
STS-100 on Space Shuttle Endeavour in 2001  
Expedition 11 on Soyuz in 2005  
STS-119 on Space Shuttle Discovery in 2009  
1 spacewalk for a total time of 4 hours, 58 minutes

Total time in space: 203 days

**POLANSKY, Mark L.**

Born June 2, 1956, in Paterson, N.J.; hometown: Edison, N.J.

Bachelor of Science in Aeronautical & Astronautical Engineering from Purdue University

Master of Science in Aeronautical & Astronautical Engineering from Purdue University

STS-98 on Space Shuttle Atlantis in 2000

STS-116 on Space Shuttle Discovery in 2006

STS-127 on Space Shuttle Endeavour in 2009

Total time in space: 41 days

**PRECOURT, Charles J., Colonel, U.S. Air Force (retired)**

Born June 29, 1955, in Waltham, Mass.; hometown: Hudson, Mass.

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

STS-55 on Space Shuttle Columbia in 1993

STS-71 on Space Shuttle Atlantis in 1995

STS-84 on Space Shuttle Atlantis in 1997

STS-91 on Space Shuttle Discovery in 1998

Total time in space: 39 days

**READDY, William F., Captain, U.S. Navy (retired)**

Born Jan. 24, 1952, in Quonset Point, R.I.; hometown: McLean, Va.

Bachelor of Science in Aerospace Engineering from the U.S Naval Academy

STS-42 on Space Shuttle Discovery in 1992

STS-51 on Space Shuttle Discovery in 1993

STS-79 on Space Shuttle Atlantis in 1996

Total time in space: 28 days

**REIGHTLER, Kenneth S., Jr., Captain, U.S. Navy (retired)**

Born March 24, 1951, in Patuxent River, MD; hometown: Virginia Beach, Va.

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

STS-48 on Space Shuttle Discovery in 1991

STS-60 on Space Shuttle Discovery in 1994

Total time in space: 13 days

**REILLY, James F., Ph.D.**

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

STS-89 on Space Shuttle Endeavour in 1998

STS-104 on Space Shuttle Atlantis in 2001  
STS-117 on Space Shuttle Atlantis in 2007  
5 spacewalks for a total time of 30 hours, 39 minutes  
Total time in space: 35 days

**REISMAN**, Garrett E., Ph.D.

Born Feb. 10, 1968, in Morristown, N.J.; hometown: Parsippany, N.J.  
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 California Institute of Technology  
Doctor of Philosophy in Mechanical Engineering from California Institute of Technology  
Expedition 16/17: STS-123 Endeavour (launch) and STS-124 Discovery (landing),  
in 2008  
STS-132 on Space Shuttle Atlantis in 2010  
3 spacewalks for a total time of 21 hours, 12 minutes  
Total time in space: 107 days

**RICHARDS**, Richard N., Captain, U.S. Navy (retired)

Born Aug. 24, 1946, in Key West, Fla.; hometown: St. Louis, Mo.  
Bachelor of Science in Chemical Engineering from the University of Missouri  
Master of Science in Aeronautical Systems from the University of West Florida  
STS-28 on Space Shuttle Columbia in 1989  
STS-41 on Space Shuttle Discovery in 1990  
STS-50 on Space Shuttle Columbia in 1992  
STS-64 on Space Shuttle Discovery in 1994  
Total time in space: 33 days

**ROBINSON**, Stephen K., Ph.D.

Born Oct. 26, 1955, in Sacramento, Calif.  
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  
STS-85 on Space Shuttle Discovery in 1997  
STS-95 on Space Shuttle Discovery in 1998  
STS-114 on Space Shuttle Discovery in 2005  
STS-130 on Space Shuttle Endeavour in 2010  
3 spacewalks for a total time of 20 hours, 5 minutes  
Total time in space: 48 days

**ROMINGER**, Kent V., Captain, U.S. Navy (retired)

Born Aug. 7, 1956, in Del Norte, Colo.  
Bachelor of Science in Civil Engineering from Colorado State University  
Master of Science in Aeronautical Engineering from the U.S. Naval Postgraduate School  
STS-73 on Space Shuttle Columbia in 1995  
STS-80 on Space Shuttle Columbia in 1996  
STS-85 on Space Shuttle Discovery in 1997

STS-96 on Space Shuttle Discovery in 1999  
STS-100 on Space Shuttle Endeavour in 1991  
Total time in space: 67 days

**ROSS**, Jerry L., Colonel, U.S. Air Force (retired)  
Born Jan. 20, 1948, in Crown Point, Ind.  
Bachelor of Science in Mechanical Engineering from Purdue University  
Master of Science in Mechanical Engineering from Purdue University  
STS-61B on Space Shuttle Atlantis in 1985  
STS-27 on Space Shuttle Atlantis in 1988  
STS-37 on Space Shuttle Atlantis in 1991  
STS-55 on Space Shuttle Columbia in 1993  
STS-74 on Space Shuttle Atlantis in 1995  
STS-88 on Space Shuttle Endeavour in 1998  
STS-110 on Space Shuttle Atlantis in 2002  
9 spacewalks for a total time of 57 hours, 55 minutes  
Total time in space: 58 days

**RUNCO**, Mario, Jr., Lieutenant Commander, U.S Navy (retired)  
Born Jan. 26, 1952, in Bronx, N.Y.  
Bachelor of Science in Earth & Planetary Science from City College of New York  
Master of Science in Atmospheric Physics from Rutgers University  
STS-44 on Space Shuttle Atlantis in 1991  
STS-54 on Space Shuttle Endeavour in 1993  
STS-77 on Space Shuttle Endeavour in 1996  
1 spacewalk for a total time of 4 hours, 28 minutes  
Total time in space: 22 days

**SACCO**, Albert, Jr., Ph.D.  
Payload Specialist  
Born May 3, 1949, in Boston, Mass.  
Bachelor of Science in Chemical Engineering from Northeastern University  
Doctor of Philosophy in Chemical Engineering from Massachusetts Institute of Technology  
STS-73 on Space Shuttle Columbia in 1995  
Time in space: 15 days

**SATCHER**, Robert L., Jr., M.D.  
Born Sept. 22, 1965, in Hampton, Va.  
Bachelor of Science in Chemical Engineering from Massachusetts Institute of Technology  
Doctorate in Chemical Engineering from Massachusetts Institute of Technology  
Doctor of Medicine from Harvard University  
STS-129 on Space Shuttle Atlantis in 2009  
2 spacewalks for a total time of 12 hours, 19 minutes  
Total time in space: 10 days

**SCHMITT**, Harrison H.  
Born July 3, 1935, in Santa Rita, N.M.  
Bachelor of Science in Geology from California Institute of Technology



Doctor of Philosophy in Geology from Harvard University  
Apollo 17 in 1972  
3 spacewalks for a total time of 22 hours, 5 minutes  
Total time in space: 12 days

**SCHWEICKART**, Russell L.

Born on Oct. 25, 1935 in Neptune, N.J.  
Bachelor of Science in Aeronautics & Astronautics from Massachusetts Institute of Technology  
Master of Science in Aeronautics & Astronautics from Massachusetts Institute of Technology  
Apollo 9 in 1969  
1 spacewalk for a total time of 46 minutes  
Total time in space: 10 days

**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 Massachusetts Institute of Technology  
Gemini 8 in 1966  
Apollo 9 in 1969  
Apollo 15 in 1971  
3 spacewalks for a total time of 18 hours, 35 minutes  
Total time in space: 22 days

**SCOTT**, Winston E., Captain, U.S. Navy (retired)

Born Aug. 6, 1950, in Miami, Fla.  
Bachelor of Arts in music from Florida State University  
Master of Science in Aeronautical Engineering from the U.S. Naval Postgraduate School  
STS-72 on Endeavour in 1996  
STS-87 on Columbia in 1997  
3 spacewalks for a total time of 19 hours, 36 minutes  
Total time in space: 24 days

**SCULLY- POWER**, Paul D.

Payload specialist  
Born May 28, 1944, in Sydney, Australia  
Bachelor of Science in Applied Mathematics from the University of Sydney  
STS-41G on Challenger in 1984  
Total time in space: 8 days

**SEDDON**, Margaret Rhea

Born Nov. 8, 1947, in Murfreesboro, Tenn.  
Bachelor of Arts in Physiology from the University of California-Berkeley  
Doctor of Medicine from the University of Tennessee  
STS-51D on Space Shuttle Discovery in 1985  
STS-40 on Space Shuttle Columbia in 1991  
STS-58 on Space Shuttle Columbia in 1993

Total time in space: 30 days

**SEGA**, Ronald M., Colonel, U.S. Air Force Reserves (retired)

Born Dec. 4, 1952, in Cleveland, Ohio; hometowns: Northfield, Ohio, and Colorado Springs, Colo.

Bachelor of Science in Physics & Math from the U.S. Air Force Academy

Master of Science in Physics from The Ohio State University

Doctor of Philosophy in Electrical Engineering from the University of Colorado

STS-60 on Space Shuttle Discovery in 1994

STS-76 on Space Shuttle Atlantis in 1996

Total time in space: 17 days

**SHAW**, Brewster H., Jr., Colonel, U.S. Air Force (retired)

Born May 16, 1945, in Cass City, Mich.

Bachelor of Science in Engineering Mechanics from the University of Wisconsin

Master of Science in Engineering Mechanics from the University of Wisconsin

STS-9 on Space Shuttle Columbia in 1983

STS-61B on Space Shuttle Atlantis in 1985

STS-28 on Space Shuttle Columbia in 1989

Total time in space: 22 days

**SHEPHERD**, William M., Captain, U.S. Navy (retired)

Born July 26, 1949, in Oak Ridge, Tenn.; hometown: Babylon, N.Y.

Bachelor of Science in Aerospace Engineering from the U.S. Naval Academy

Master of Science in Mechanical Engineering from Massachusetts Institute of Technology

STS-27 on Space Shuttle Atlantis in 1988

STS-41 on Space Shuttle Discovery in 1990

STS-52 on Space Shuttle Columbia in 1992

Expedition 1: Soyuz (launch) in 2000 and STS-102 Space Shuttle Discovery (landing) in 2001

Total time in space: 159 days

**SHRIVER**, Loren J., Colonel, U.S. Air Force (retired)

Born Sept. 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

STS-51C on Space Shuttle Discovery in 1985

STS-31 on Space Shuttle Discovery in 1990

STS-46 on Space Shuttle Atlantis in 1992

Total time in space: 16 days

**SMITH**, Steven L.

Born Dec. 30, 1958, in Phoenix, Ariz.; hometown: San Jose, Calif.

Bachelor of Science in Electrical Engineering from Stanford University

Master of Science in Electrical Engineering from Stanford University

Master's in Business Administration from Stanford University

STS-68 on Space Shuttle Endeavour in 1994

STS-82 on Space Shuttle Discovery in 1997

STS-103 on Space Shuttle Discovery in 1999

STS-110 on Space Shuttle Atlantis in 2002  
7 spacewalks for a total time of 49 hours, 48 minutes  
Total time in space: 40 days

**SPRING**, Sherwood C., Colonel, U.S. Army (retired)

Born Sept. 3, 1944, in Hartford, Conn.  
Bachelor of Science in General Engineering from the U.S Military Academy  
Master of Science in Aerospace Engineering from the University of Arizona  
STS-61B on Space Shuttle Atlantis in 1985  
2 spacewalks for a total time of 12 hours, 13 minutes  
Total time in space: 6 days

**SPRINGER**, Robert C., Colonel, U. S. Marine Corps (retired)

Born May 21, 1942, in St. Louis; 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  
STS-29 on Space Shuttle Discovery in 1989  
STS-38 on Space Shuttle Atlantis in 1990  
Total time in space: 9 days

**STAFFORD**, Thomas P., lieutenant general, U.S. Air Force (retired)

Born Sept. 17, 1930, in Weatherford, Okla.  
Bachelor of Science from the U.S. Naval Academy  
Gemini 6 in 1965  
Gemini 9 in 1966  
Apollo 10 in 1969  
Apollo Soyuz Test Project in 1975  
Total time in space: 21 days

**STEFANYSHYN-PIPER**, Heidemarie M., Captain, U.S. Navy

Born Feb. 7, 1963, in St. Paul, Minn.  
Bachelor of Science in Mechanical Engineering from Massachusetts Institute of  
Technology  
STS-115 on Space Shuttle Atlantis in 2006  
STS-126 on Space Shuttle Endeavour in 2008  
5 spacewalks for a total time of 33 hours, 42 minutes  
Total time in space: 27 days

**STEWART**, Robert L., Brigadier General, U.S. Army (retired)

Born Aug. 13, 1942, in District of Columbia  
Bachelor of Science in Mathematics from the University of Southern Mississippi  
Master of Science in Aerospace Engineering from the University of Texas-Arlington  
STS-41B on Space Shuttle Challenger in 1984  
STS-51J on Space Shuttle Atlantis in 1985  
2 spacewalks for a total time of 12 hours, 12 minutes  
Total time in space: 12 days

**STOTT**, Nicole P.

Born Nov. 19, 1962, in Albany, N.Y.; hometown: Clearwater, Fla.

Bachelor of Science in Aeronautical Engineering from Embry-Riddle Aeronautical University

Master of Science in Engineering Management from the University of Central Florida

Expeditions 20/21 on Space Shuttle Discovery in 2009

STS-133 on Space Shuttle Discovery in 2011

1 spacewalk for a total time of 6 hours, 35 minutes

Total time in space: 104 days

**STURCKOW**, Frederick W., Colonel, U.S. Marine Corps (retired)

Born Aug. 11, 1961, in La Mesa, Calif.; hometown: Lakeside, Calif.

Bachelor of Science in Mechanical Engineering from California Polytechnic State University

STS-88 on Space Shuttle Endeavour in 1998

STS-105 on Space Shuttle Discovery in 2001

STS-117 on Space Shuttle Atlantis in 2007

STS-128 on Space Shuttle Discovery in 2009

Total time in space: 51 days

**SULLIVAN**, Kathryn D., Ph.D.

Born Oct. 3, 1951, in Patterson, N.J.; hometown: Woodland Hills, Calif.

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

STS-41G on Space Shuttle Challenger in 1984

STS-31 on Space Shuttle Discovery in 1990

STS-45 on Space Shuttle Atlantis in 1992

1 spacewalk for a total time of 3 hours, 29 minutes

Total time in space: 22 days

**SWANSON**, Steven R., Ph.D.

Born Dec. 3, 1960, in Syracuse, N.Y.; hometown: Steamboat Springs, Colo.

Bachelor of Science in Engineering Physics from the 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

STS-117 on Space Shuttle Atlantis in 2007

STS-119 on Space Shuttle Discovery in 2009

5 spacewalks for a total time of 27 hours, 58 minutes

Total time in space: 26 days, 15 hours, 41 minutes

**TANI**, Daniel M.

Born Feb. 1, 1961, in Ridley Park, Pa.; hometown: Lombard, Ill.

Bachelor of Science in Mechanical Engineering from Massachusetts Institute of Technology

Master of Science in Mechanical Engineering from Massachusetts Institute of Technology

STS-108 on Endeavour in 2001

Expedition 16: STS-120 Space Shuttle Discovery (launch) and STS-122 Space Shuttle Atlantis (landing) in 2008

6 spacewalks for a total time of 39 hours, 11 minutes

Total time in space: 31 days

**TANNER, Joseph R.**

Born Jan. 21, 1950, in Danville, Ill.

Bachelor of Science in Mechanical Engineering from the University of Illinois

STS-66 on Space Shuttle Atlantis in 1994

STS-82 on Space Shuttle Discovery in 1997

STS-97 on Space Shuttle Endeavour in 2000

STS-115 on Space Shuttle Discovery in 2001

7 spacewalks for a total time of 46 hours, 29 minutes

Total time in space: 43 days

**THAGARD, Norman E., M.D.**

Born July 3, 1943, in Marianna, Fla.; hometown: Jacksonville, Fla.

Bachelor of Science in Engineering Science from Florida State University

Master of Science in Engineering Science from Florida State University

Doctor of Medicine from the University of Texas Southwestern Medical School

STS-7 on Space Shuttle Challenger in 1983

STS-51B on Space Shuttle Challenger in 1985

STS-30 on Space Shuttle Atlantis in 1989

STS-42 on Space Shuttle Discovery in 1992

Mir: Soyuz (launch) and STS-71 on Space Shuttle Atlantis (landing) in 1995

Total time in space: 140 days

**THOMAS, Andrew S.W., Ph.D.**

Born Dec. 18, 1951, in Adelaide, South Australia

Bachelor of Engineering in Mechanical Engineering from the University of Adelaide

Doctor of Philosophy in Mechanical Engineering from the University of Adelaide

STS-77 on Space Shuttle Endeavour in 1996

Mir: STS-89 on Space Shuttle Endeavour (launch) and STS-91 on Space Shuttle

Discovery (landing) in 1998

STS-102 on Space Shuttle Discovery in 2001

STS-114 on Space Shuttle Discovery in 2005

1 spacewalk for a total time of 6 hours, 21 minutes

Total time in space: 177 days

**THOMAS, Donald A., Ph.D.**

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

STS-65 on Space Shuttle Columbia in 1994

STS-70 on Space Shuttle Discovery in 1995

STS-83 on Space Shuttle Columbia in 1997

STS-94 on Space Shuttle Columbia in 1997

Total time in space: 43 days

**THORNTON, Kathryn C.,**

Born Aug. 17, 1952, in Montgomery, Ala.

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

STS-33 on Space Shuttle Discovery in 1989

STS-49 on Space Shuttle Endeavour in 1992

STS-61 on Space Shuttle Endeavour in 1993  
STS-73 on Space Shuttle Columbia in 1995  
3 spacewalks for a total time of 21 hours, 11 minutes  
Total time in space: 40 days

**THUOT**, Pierre J., Commander, U.S. Navy

Born May 19, 1955, in Groton, Conn.; hometowns: Fairfax, Va., and New Bedford, Mass.  
Bachelor of Science in Physics from the U.S. Naval Academy  
Master of Science in System Management from the University of Southern California  
STS-36 on Space Shuttle Atlantis in 1990  
STS-49 on Space Shuttle Endeavour in 1992  
STS-62 on Space Shuttle Columbia in 1994  
3 spacewalks for a total time of 17 hours, 42 minutes  
Total time in space: 27 days

**TRINH**, Eugene H., Ph.D.

Payload specialist  
Born Sept. 14, 1950, in Saigon, Vietnam.  
Bachelor of Science in Mechanical Engineering-Applied Physics from Columbia University  
Master of Science and of Philosophy in Applied Physics from Yale University  
Doctor of Philosophy in Applied Physics from Yale University  
STS-50 on Space Shuttle Columbia in 1992  
Total time in space: 13 days

**TRULY**, Richard H., vice admiral, U.S. Navy (retired)

Born Nov. 12, 1937, in Fayette, Miss.  
Bachelor of Aeronautical Engineering from the Georgia Institute of Technology  
ALT tests 2 and 4  
STS-2 on Space Shuttle Columbia in 1981  
STS-8 on Space Shuttle Challenger in 1983  
Total time in space: 8 days

**VAN DEN BERG**, Lodewijk, Ph.D.

Payload specialist  
Born March 24, 1932, in Sluiskil, The Netherlands  
Master of Science in Chemical Engineering from Technical University, Delft, The Netherlands  
Master of Science in Applied Science from the University of Delaware  
Doctor of Philosophy Applied Science from the University of Delaware  
STS-51B on Space Shuttle Challenger in 1985  
Time in space: 7 days, 8 minutes

**VAN HOF TEN**, James D., Ph.D.

Born June 11, 1944, in Fresno, Calif.; hometown: Burlington, Calif.  
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

STS-41C on Space Shuttle Challenger in 1984  
STS-51I on Space Shuttle Discovery in 1985  
4 spacewalks for a total time of 21 hours, 8 minutes  
Total time in space: 14 days

**VIRTS**, Terry, Colonel, U.S. Air Force (retired)  
Born Dec. 1967, in Baltimore, Md.; hometown: Columbia, Md.  
Bachelor of Science in Mathematics & minor in French from the U.S. Air Force Academy  
Master of Advanced Studies in Aeronautics from Embry-Riddle Aeronautical University  
STS-130 on Space Shuttle Endeavour in 2010  
3 spacewalks for a total time of 19 hours, 2 minutes  
Total time in space: 13 days

**VOSS**, James S., Colonel, U.S. Army (retired)  
Born March 3, 1949, in Cordova, Ala.; hometown: Opelika, Ala.  
Bachelor of Science in Aerospace Engineering from Auburn University  
Master of Science in Aerospace Engineering sciences from the University of Colorado  
STS-44 on Space Shuttle Atlantis in 1991  
STS-53 on Space Shuttle Discovery in 1992  
STS-69 on Space Shuttle Endeavour in 1995  
STS-101 on Space Shuttle Atlantis in 2000  
Expedition 2: STS-102 on Space Shuttle Discovery (launch) and STS-105 on Space Shuttle Discovery (landing) in 2001  
4 spacewalks for a total time of 22 hours, 35 minutes  
Total time in space: 202 days

**WALKER**, Charles D.  
Payload specialist  
Born Aug. 29, 1948, in Bedford, Ind.  
Bachelor of Science in Aeronautical & Astronautical Wngineering from Purdue University  
STS-41D on Space Shuttle Discovery in 1984  
STS-51D on Space Shuttle Discovery in 1985  
STS-61B on Space Shuttle Atlantis in 1985  
Total time in space: 19 days

**WALHEIM**, Rex J., Colonel, U.S. Air Force (retired)  
Born Oct. 10, 1962, in Redwood, Calif.; hometown: San Carlos, Calif.  
Bachelor of Science in Mechanical Engineering from the University of California Berkeley  
Master of Science in Industrial Engineering from University of Houston  
STS-110 on Space Shuttle Atlantis in 2002  
STS-122 on Space Shuttle Atlantis in 2008  
STS-135 on Space Shuttle Atlantis in 2011  
5 spacewalks for a total time of 36 hours, 23 minutes  
Total time in space: 36 days

**WALZ, Carl E., Colonel, U.S. Air Force (retired)**

Born Sept. 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

STS-51 on Space Shuttle Discovery in 1993

STS-65 on Space Shuttle Columbia in 1994

STS-79 on Space Shuttle Atlantis in 1996

Expedition 4: STS-108 on Space Shuttle Endeavour (launch) and STS-111 on Space Shuttle Endeavour (landing) in 2002

3 spacewalks for a total time of 18 hours, 55 minutes

Total time in space: 230 days

**WANG, Taylor G., Ph.D.**

Payload specialist

Born June 16, 1940, 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

Doctor of Philosophy in Physics from the University of California at Los Angeles

STS-51B on Space Shuttle Challenger in 1985

Total time in space: 7 days

**WEBER, Mary E., Ph.D.**

Born Aug. 24, 1962, in Cleveland, Ohio; hometown: Bedford Heights, Ohio

Bachelor of Science in Chemical Engineering from Purdue University

Doctor of Philosophy in Physical Chemistry from the University of California-Berkeley

STS-70 on Space Shuttle Discovery in 1995

STS-101 on Space Shuttle Atlantis in 2000

Total time in space: 18 days

**WETHERBEE, James D., Captain, U.S. Navy (retired)**

Born Nov. 27, 1952, in Flushing, N.Y.; hometown: Huntington Station, N.Y.

Bachelor of Science in Aerospace Engineering from the University of Notre Dame

STS-32 on Space Shuttle Columbia in 1990

STS-52 on Space Shuttle Columbia in 1992

STS-63 on Space Shuttle Discovery in 1995

STS-86 on Space Shuttle Atlantis in 1997

STS-102 on Space Shuttle Discovery in 2001

STS-113 on Space Shuttle Endeavour in 2002

Total time in space: 66 days

**WHITSON, Peggy A., Ph.D.**

Born Feb. 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

Expedition 5: STS-111 Space Shuttle Endeavour (launch) & STS-113 Space Shuttle Endeavour (landing) in 2002

Expedition 16 on Soyuz 2007

10 spacewalks for a total time of 60 hours, 21 minutes

Total time in space: 376 days



**WISOFF**, Peter J. K., Ph.D.

Born Aug. 16, 1958, in Norfolk, Va.

Bachelor of Science in Physics from the University of Virginia

Master of Science and Doctor of Philosophy in Applied Physics from Stanford University

STS-57 on Space Shuttle Endeavour in 1993

STS-68 on Space Shuttle Endeavour in 1994

STS-81 on Space Shuttle Atlantis in 1997

STS-92 on Space Shuttle Discovery in 2000

3 spacewalks for a total time of 19 hours, 53 minutes

Total time in space: 44 days

**WOLF**, David A.

Born Aug. 23, 1956, in Indianapolis, Ind.

Bachelor of Science in Electrical Engineering from Purdue University

Doctor of Medicine from Indiana University

STS-58 on Space Shuttle Columbia in 1993

Mir: STS-86 on Space Shuttle Atlantis (launch) and STS-89 on Space Shuttle Endeavour (landing) in 1998

STS-112 on Space Shuttle Atlantis 2002

STS-127 on Space Shuttle Endeavour in 2009

7 spacewalks for a total time of 41 hours, 57 minutes

Total time in space: 168 days

**WOODWARD**, Neil W., III, Commander, U.S. Navy (retired)

Born July 26, 1962, in Chicago, Ill.

Bachelor of Science in Physics from Massachusetts Institute of Technology

Master of Arts in Physics from the University of Texas-Austin

Master of Management from George Washington University

Total time in space: 0

**ZAMKA**, George D., Colonel, U.S. Marine Corps (retired)

Born June 29, 1962, in Jersey City, N.J.; hometown: Rochester, Mich.

Bachelor of Science in Mathematics from the U.S. Naval Academy

Master of Science in Engineering Management from Florida Institute of Technology

STS-120 on Space Shuttle Discovery in 2007

STS-130 on Space Shuttle Endeavour in 2010

Total time in space: 28 days

## **2.5 DECEASED U.S. ASTRONAUTS & PAYLOAD SPECIALISTS**

**ANDERSON**, Michael P., Lieutenant Colonel, U.S. Air Force

Born Dec. 25, 1959, in Plattsburgh, N.Y.; hometown: Spokane, Wash.  
Bachelor of Science in Physics/Astronomy from University of Washington  
Master of Science in Physics from Creighton University  
STS-89 on Space Shuttle Endeavour in 1998  
STS-107 on Space Shuttle Columbia in 2003  
Total time in space: 24 days, 18 hours, 8 minutes  
DIED: Feb. 1, 2003

**ARMSTRONG**, Neil A.

Born Aug. 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  
Gemini 8 in 1966  
Apollo 11 in 1969  
1 spacewalk for a total time of 2 hours, 32 minutes  
Total time in space: 8 days, 13 hours, 59 minutes  
DIED: Aug. 25, 2012

**BASSETT II**, Charles A., Captain, U.S. Air Force

Born Dec. 30, 1931, in Dayton, Ohio  
Bachelor of Science in Electrical Engineering from Texas Technological College  
Total time in space: 0  
DIED: Feb. 28, 1966

**BEAN**, Alan L., Captain, U.S. Navy

Born March 15, 1932, in Wheeler, Texas  
Bachelor of Science in Aeronautical Engineering from the University of Texas  
Apollo 12 in 1969  
Skylab 3 in 1973  
3 spacewalks for a total time of 10 hours, 8 minutes  
Total time in space: 69 days, 15 hours, 45 minutes  
DIED: May 26, 2018

**BRADY**, Charles E., Jr., M.D., Captain, U. S. Navy

Born Aug. 12, 1951, in Pinehurst, N.C.; hometown: Robbins, N. C.  
Doctor of Medicine from Duke University  
STS-78 on Space Shuttle Columbia in 1996  
Total time in space: 16 days, 21 hours, 48 minutes  
DIED: July 23, 2006

**BROWN**, David M., M.D., Captain, U.S. Navy

Born April 16, 1956, in Arlington, Va.  
Bachelor of Science in Biology from College of William & Mary  
Doctor of Medicine from Eastern Virginia Medical School  
STS-107 on Space Shuttle Columbia in 2003  
Total time in space: 15 days, 22 hours, 20 minutes  
DIED: Feb. 1, 2003

**BULL, John S., Ph.D.**

Born Sept. 25, 1934, in Memphis, Tenn.

Bachelor of Science in Mechanical Engineering from Rice University

Master of Science in Aeronautical Engineering from Stanford University

Doctorate in Aeronautical Engineering from Stanford University

Total time in space: 0

DIED: Aug. 11, 2008

**CALDEIRO, Fernando**

Born June 12, 1958, in Buenos Aires, Argentina; hometown: New York, N.Y. and Merritt Island, Fla.

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

DIED: Oct. 3, 2009

**CARPENTER, M. Scott, Commander, U.S. Navy**

Born May 1, 1925, in Boulder, Colo.

Bachelor of Science in Aeronautical Engineering from the University of Colorado

Mercury 7 in 1962

Total time in space: 4 hours, 54 minutes

DIED: Oct. 10, 2013

**CARR, Gerald P., Colonel, U.S. Marine Corps (retired)**

Born Aug. 22, 1932, in Denver, Colo.

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

Skylab 4 in 1974

3 spacewalks for a total time of 15 hours, 49 minutes

Total time in space: 84 days, 1 hour, 15 minutes

DIED: August 26, 2020

**CARTER, Manley Lanier "Sonny", M.D., Jr., Captain, U.S. Navy**

Born Aug. 15, 1947, in Macon, Ga.

Bachelor of Arts in Chemistry from Emory University

Doctor of Medicine from Emory University

STS-33 on Space Shuttle Discovery in 1989

Total time in space: 5 days, 7 minutes

DIED: April 5, 1991

**CERNAN, Eugene A., Captain, U.S. Navy**

Born March 14, 1934, in Chicago, Ill.

Bachelor of Science in Electrical Engineering from Purdue University

Master of Science in Aeronautical Engineering from the U.S Navy Postgraduate School

Gemini 9 in 1966  
Apollo 10 in 1969  
Apollo 17 in 1972  
4 spacewalks for a total time of 24 hours, 14 minutes  
Total time in space: 23 days, 14 hours, 15 minutes  
DIED: January 16, 2017

**CHAFFEE**, Roger B., Lieutenant Commander, U.S. Navy  
Born Feb. 15, 1935, in Grand Rapids, Mich.  
Bachelor of Science in Aeronautical Engineering from Purdue University  
Total time in space: 0  
DIED: Jan. 27, 1967

**CHAPMAN**, Philip K., Ph.D.  
Born March 5, 1935, in Melbourne, Australia  
Bachelor of Science in Physics and Mathematics from the University of Sydney  
Master of Science in Aeronautics & Astronautics from Massachusetts Institute of Technology  
Doctor of Science in Instrumentation for Massachusetts Institute of Technology  
Total time in space: 0  
DIED: April 5, 2021

**CHAWLA**, Kalpana, Ph.D.  
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  
STS-87 on Space Shuttle Columbia in 1997  
STS-107 on Space Shuttle Columbia in 2003  
Total time in space: 30 days, 14 hours, 54 minutes  
DIED: Feb. 1, 2003

**CLARK**, Laurel B., M.D., Captain, U.S. Navy  
Born March 10, 1961, in Ames, Iowa; hometown: Racine, Wis.  
Bachelor of Science in Zoology from University of Wisconsin-Madison  
Doctor of Medicine from University of Wisconsin-Madison  
STS-107 on Space Shuttle Columbia in 2003  
Total time in space: 15 days, 22 hours, 20 minutes  
DIED: Feb. 1, 2003

**CLIFFORD**, Michael R., Lieutenant Colonel, U.S. Army (retired)  
Born Oct. 13, 1952, in San Bernardino, Calif.; hometown: Ogden, Utah  
Bachelor of Science from the U.S. Military Academy  
Master of Science in Aerospace Engineering from Georgia Institute of Technology  
STS-53 on Space Shuttle Discovery in 1992  
STS-59 on Space Shuttle Endeavour in 1994  
STS-76 on Space Shuttle Atlantis in 1996  
1 spacewalk for a total time of 6 hours, 2 minutes  
Total time in space: 27 days, 18 hours, 25 minutes  
Died: Dec. 28, 2021

**COLLINS**, Michael, Major General, U.S. Air Force reserve (retired)

Born Oct. 31, 1930, in Rome, Italy  
Bachelor of Science from the U.S Military Academy  
Gemini 10 in 1966  
Apollo 11 in 1969  
1 spacewalk for a total time of 1 hour, 27 minutes  
Total time in space: 11 days, 2 hours, 4 minutes  
DIED: April 28, 2021

**CONRAD**, Charles "Pete", Jr., Captain, U.S. Navy

Born June 2, 1930, in Philadelphia, Pa.  
Bachelor of Science in Aeronautical Engineering from Princeton University  
Gemini 5 in 1965  
Gemini 11 in 1966  
Apollo 12 in 1969  
Skylab 2 in 1973  
4 spacewalks for a total time of 12 hours, 28 minutes  
Total time in space: 49 days, 3 hours, 38 minutes  
DIED: July 8, 1999.

**COOPER**, L. Gordon, Jr., Colonel, U.S. Air Force

Born March 6, 1927, in Shawnee, Okla.  
Bachelor of Science in Aeronautical Engineering from Air Force Institute of Technology  
Honorary Doctor of Science from Oklahoma City University  
Mercury 9 in 1963  
Gemini 5 in 1965  
Total time in space: 9 days, 9 hours, 15 minutes  
DIED: Oct. 4, 2004

**CUNNINGHAM**, Walter, 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  
Apollo 7 in 1968  
Total time in space: 10 days  
DIED: Jan. 3, 2023

**EISELE**, Donn F., Colonel, U.S. Air Force

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  
Apollo 7 in 1968  
Total time in space: 10 days, 20 hours, 8 minutes  
DIED: Dec. 2, 1987

**EVANS**, Ronald E., Captain, U.S. Navy

Born Nov. 10, 1933, in St. Francis, Kan.  
Bachelor of Science in Electrical Engineering from University of Kansas

Master of Science in Aeronautical Engineering from U.S. Naval Postgraduate School  
Apollo 17 in 1972  
1 spacewalk for a total time of 1 hour, 7 minutes  
Total time in space: 12 days, 13 hours, 52 minutes  
DIED: April 6, 1990

**FREEMAN**, Theodore C., Captain, U.S. Air Force  
Born Feb. 18, 1930, in Haverford, Pa  
Bachelor of Science from U.S. Naval Academy  
Master of Science in Aeronautical Engineering from University of Michigan  
Total time in space: 0  
DIED: Oct. 31, 1964

**FULLERTON**, C. Gordon, Colonel, U.S. Air Force  
Born Oct. 11, 1936, in Rochester, N.Y.  
Bachelor of Science and Master of Science in Mechanical Engineering from  
California Institute of Technology  
STS-3 on Space Shuttle Columbia in 1982  
STS-51F on Space Shuttle Challenger in 1985  
Total time in space: 15 days, 22 hours, 50 minutes  
DIED: Aug. 21, 2013

**GARDNER**, Dale A., Captain, U.S. Navy  
Born Nov. 8, 1948, in Fairmont, Minn.  
Bachelor of Science in Engineering Physics from the University of Illinois  
STS-8 on Space Shuttle Challenger in 1983  
STS-51A on Space Shuttle Discovery in 1984  
2 spacewalks for a total time of 11 hours, 42 minutes  
Total time in space: 14 days, 53 minutes  
DIED: Feb. 19, 2014

**GARRIOTT**, Owen K.  
Born Nov. 22, 1930, in Enid, Okla.  
Bachelor of Science in Electrical Engineering from the University of Oklahoma  
Master of Science and Doctor of Philosophy in Electrical Engineering from Stanford  
University  
Skylab 3 in 1973  
STS-9 on Space Shuttle Columbia in 1983  
3 spacewalks for a total time of 13 hours, 43 minutes  
Total time in space: 69 days, 18 hours, 56 minutes  
DIED: April 15, 2019

**GIVENS**, Edward G. Jr., Major, U.S. Air Force  
Born Jan. 5, 1930, in Quanah, Texas  
Bachelor of Science in Naval Sciences from U.S. Naval Academy  
Total time in space: 0  
DIED: June 6, 1967

**GLENN**, John H., Jr., Colonel, U.S. Marine Corps  
Born July 18, 1921, in Cambridge, Ohio

Bachelor of Science in Engineering from Muskingum College  
Mercury 6 in 1962  
STS-95 on Space Shuttle Discovery in 1998  
Total time in space: 9 days, 2 hours, 39 minutes  
DIED: Dec. 8, 2016

**GORDON**, Richard F., Jr., Captain, U.S. Navy  
Born Oct. 5, 1929, in Seattle, Wash.  
Bachelor of Science in Chemistry from the University of Washington  
Gemini 11 in 1966  
Apollo 12 in 1969  
1 spacewalk for a total time of 38 minutes  
Total time in space: 13 days, 3 hours, 53 minutes  
DIED: Oct. 4, 2004

**GRAVELINE**, Duane F.  
Born March 2, 1931, in Newport, Vt.  
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  
DIED: September 5, 2016

**GRIGGS**, S. David  
Born Sept. 7, 1939, in Portland, Ore.  
Bachelor of Science from U.S. Naval Academy  
Master of Science in Administration from George Washington University  
STS-51D on Space Shuttle Discovery in 1985  
1 spacewalk for a total time of 3 hours, 6 minutes  
Total time in space: 6 days, 23 hours, 55 minutes  
DIED: June 17, 1989

**GRISSOM**, Virgil I., Lieutenant Colonel, U.S. Air Force  
Born April 3, 1926, in Mitchell, Ind.  
Bachelor of Science in Mechanical Engineering from Purdue University  
Mercury 4 in 1961  
Gemini 3 in 1965  
Total time in space: 5 hours, 8 minutes  
DIED: Jan. 27, 1967

**HARTSFIELD**, Henry W., Jr., Colonel, U.S. Air Force  
Born Nov. 21, 1933, in Birmingham, Ala.  
Bachelor of Science in Physics from Auburn University  
Master of Science in Engineering Science from the University of Tennessee  
STS-4 on Space Shuttle Columbia in 1982  
STS-41D on Space Shuttle Discovery in 1984  
STS-61A on Space Shuttle Challenger in 1985  
Total time in space: 20 days, 2 hours, 50 minutes  
DIED: July 17, 2014

**HENIZE, Karl G., Ph.D.**

Born Oct. 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  
STS-51F on Space Shuttle Challenger in 1985  
Total time in space: 7 days, 22 hours, 45 minutes  
DIED: Oct. 5, 1993

**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  
STS-96 on Space Shuttle Discovery in 1999  
STS-107 on Space Shuttle Columbia in 2003  
Total time in space: 25 days, 17 hours, 33 minutes  
DIED: Feb. 1, 2003

**IRWIN, James B., Colonel, U.S. Air Force**

Born March 17, 1930, in Pittsburgh, Pa.  
Bachelor of Science in Naval Science from U.S. Naval Academy  
Master of Science in Aeronautical Engineering and Instrumentation Engineering from  
University of Michigan  
Apollo 15 in 1971  
3 spacewalks for a total time of 17 hours, 56 minutes  
Total time in space: 12 days, 7 hours, 12 minutes  
DIED: Aug. 8, 1991

**JARVIS, Gregory**

Payload Specialist  
Born Aug. 24, 1944, in Detroit, Mich.  
Bachelor of Science in Electrical Engineering from State University of New York at  
Buffalo  
Master's in Electrical Engineering from Northeastern University  
Total time in space: 0  
DIED: Jan. 28, 1986

**LENOIR, William B.**

Born March 14, 1939, in Miami, Fla.  
Bachelor of Science in Electrical Engineering from Massachusetts Institute of  
Technology  
Master of Science in Electrical Engineering from Massachusetts Institute of Technology  
Doctor of Philosophy in Electrical Engineering from Massachusetts Institute of  
Technology  
STS-5 on Space Shuttle Columbia in 1982  
Total time in space: 5 days, 2 hours, 14 minutes  
DIED: Aug. 26, 2012

**LLEWELLYN, John A., Ph.D.**

Born April 22, 1933, in Cardiff, Wales, United Kingdom



Bachelor of Science in Chemistry from the University College at Cardiff  
Doctor of Philosophy in Chemistry from the University College of Cardiff  
Total time in space: 0  
DIED: July 2, 2013

**LOUNGE**, John M. "Mike"

Born June 28, 1946, in Denver, Colo.  
Bachelor of Science in Physics and Mathematics from U.S. Naval Academy  
Master of Science in Astrogeophysics from University of Colorado  
STS-51I on Space Shuttle Discovery in 1985  
STS-26 on Space Shuttle Discovery in 1988  
STS-35 on Space Shuttle Columbia in 1990  
Total time in space: 20 days, 3 hours, 23 minutes  
DIED: March 1, 2011

**LOW**, G. David

Born Feb. 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  
STS-32 on Space Shuttle Columbia in 1990  
STS-43 on Space Shuttle Atlantis in 1991  
STS-57 on Space Shuttle Endeavour in 1993  
1 spacewalk for a total time of 5 hours, 50 minutes  
Total time in space: 29 days, 18 hours, 6 minutes  
DIED: March 15, 2008

**MCAULIFFE**, S. Christa

Educator Astronaut  
Born Sept. 2, 1948, in Boston, Mass.  
Bachelor of Arts in Education Framingham State College  
Master's in Education Bowie State College  
Total time in space: 0  
DIED: Jan. 28, 1986

**McCANDLESS**, Bruce, II, Captain, U.S. Navy

Born June 8, 1937, in Boston, Mass.  
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  
STS-41B on Space Shuttle Challenger in 1984  
STS-31 on Space Shuttle Discovery in 1990  
2 spacewalks for a total time of 12 hours, 12 minutes  
Total time in space: 13 days, 31 minutes  
DIED: Dec. 21, 2017

**McCOOL**, William C., Commander, U.S. Navy

Born Sept. 23, 1961, in San Diego, Calif.  
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  
STS-107 on Space Shuttle Columbia in 2003  
Total time in space: 15 days, 22 hours, 20 minutes  
DIED: Feb. 1, 2003

**McDIVITT**, James A., Brigadier General U.S. Air Force (retired)

Born June 10, 1929, in Chicago, Ill.  
Bachelor of Science in Astronautical Engineering from the University of Michigan  
Gemini 4 in 1965  
Apollo 9 in 1969  
Total time in space: 14 days  
DIED: Oct. 13, 2022

**McNAIR**, Ronald E., Ph.D.

Born Oct. 21, 1950, in Lake City, S.C.  
Bachelor of Science in Physics from North Carolina A&T State College  
Doctor of Philosophy in Physics from Massachusetts Institute of Technology  
STS-41B on Space Shuttle Challenger in 1984  
Total time in space: 7 days, 23 hours, 15 minutes  
DIED: Jan. 28, 1986

**MICHEL**, F. Curtis, Ph.D.

Born June 5, 1934, in LaCrosse, Wis.  
Bachelor of Science in Physics from California Institute of Technology  
Doctor of Philosophy in Physics from California Institute of Technology  
Total time in space: 0  
DIED: Feb. 26, 2015

**MITCHELL**, Edgar D., Ph.D., Captain, U.S. Navy

Born Sept. 17, 1930, in Hereford, Texas  
Bachelor of Science in Industrial Management from Carnegie Institute of Technology (now Carnegie-Mellon University)  
Bachelor of Science in Aeronautical Engineering from the U.S. Naval Postgraduate School  
Doctor of Science in Aeronautics & Astronautics from Massachusetts Institute of Technology  
Apollo 14 in 1971  
2 spacewalks for a total time of 9 hours, 35 minutes  
Total time in space: 9 days, 42 minutes  
DIED: Feb. 4, 2016

**NAGEL**, Steven R., Colonel, U.S. Air Force

Born Oct. 27, 1946, in Canton, Ill.  
Bachelor of Science in Aerospace Engineering from the University of Illinois  
Master of Science in Mechanical Engineering from California State University-Fresno  
STS-51G on Space Shuttle Discovery in 1985  
STS-61A on Space Shuttle Challenger in 1985  
STS-37 on Space Shuttle Atlantis in 1991

STS-55 on Space Shuttle Columbia in 1993  
Total time in space: 30 days, 1 hour, 36 minutes  
DIED: Aug. 21, 2014

**O'LEARY, Brian T.**

Born Jan. 27, 1940, in Boston, Mass.  
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  
Total time in space: 0  
DIED: July 28, 2011

**ONIZUKA, Ellison S., Lieutenant Colonel, U.S. Air Force**

Born June 24, 1946, in Kealahou, Kona, Hawaii  
Bachelor of Science in Aerospace Engineering from University of Colorado  
Master of Science in Aerospace Engineering from University of Colorado  
STS-51C on Space Shuttle Discovery in 1985  
Total time in space: 3 days, 1 hour, 33, minutes  
DIED: Jan. 28, 1986

**OVERMYER, Robert F., Colonel, U.S. Marine Corps**

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  
STS-5 on Space Shuttle Columbia in 1982  
STS-51B on Space Shuttle Challenger in 1985  
Total time in space: 12 days, 2 hours, 23 minutes  
DIED: March 22, 1996

**PARISE, Ronald A.**

Payload Specialist  
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  
STS-35 on Space Shuttle Columbia in 1990  
STS-67 on Space Shuttle Endeavour in 1995  
Total time in space: 25 days, 14 hours, 14 minutes  
DIED: May 9, 2008

**PETERSON, Donald H., Colonel, U.S. Air Force**

Born Oct. 22, 1933, in Winona, Miss.  
Bachelor of Science from the U.S. Military Academy  
Master of Science in Nuclear Engineering from the U.S. Air Force Institute of  
Technology  
STS-6 on Space Shuttle Challenger in 1983  
1 spacewalk for a total time of 4 hours, 17 minutes  
Total time in space: 5 days, 23 minutes  
DIED: May 27, 2018

**POGUE**, William, Colonel, U.S. Air Force

Born Jan. 23, 1930, in Okemah, Okla.

Bachelor of Science in Education from Oklahoma Baptist University

Master of Science in Mathematics from Oklahoma State University

Skylab 4 in 1974

2 spacewalks for a total time of 13 hours, 34 minutes

Total time in space: 84 days, 1 hour, 15 minutes

DIED: March 3, 2014

**POINDEXTER**, Alan G., Captain, U.S. Navy

Born Nov. 5, 1961, in Pasadena, Calif.; hometown: Rockville, Md.

Bachelor of Science in Aerospace Engineering from Georgia Institute  
of Technology

Master of Science in Aeronautical Engineering from U.S. Naval  
Postgraduate School

STS-122 on Space Shuttle Atlantis in 2008

STS-131 on Space Shuttle Discovery in 2010

Total time in space: 27 days, 21 hours, 9 minutes

DIED: July 1, 2012

**RESNIK**, Judith A., Ph.D.

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

STS-41D on Space Shuttle Discovery in 1984

Total time in space: 6 days, 56 minutes

DIED: Jan. 28, 1986

**RIDE**, Sally K., Ph.D.

Born May 26, 1951, in Los Angeles

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

STS-7 on Space Shuttle Challenger in 1983

STS-41G on Space Shuttle Challenger in 1984

Total time in space: 14 days, 7 hours, 46 minutes

DIED: July 23, 2012

**ROBERTSON**, Patricia Hilliard, M.D.

Born March 12, 1963, in Indiana, Pa.; hometown: Homer City, Pa.

Bachelor of Science in Biology from Indiana University of Pennsylvania

Doctor of Medicine from Medical College of Pennsylvania

Total time in space: 0

DIED: May 24, 2001

**ROOSA**, Stuart A., Colonel, U.S. Air Force

Born Aug. 16, 1933, in Durango, Colo.

Bachelor of Science in Aeronautical Engineering from University of Colorado

Apollo 14 in 1971

Total time in space: 9 days, 42 minutes  
DIED: Dec. 12, 1994

**SCHIRRA**, Walter M., Captain, U.S Navy  
Born March 12, 1923, in Hackensack, N.J.  
Bachelor of Science from U.S. Naval Academy  
Mercury 8 in 1962  
Gemini 6 in 1965  
Apollo 7 in 1968  
Total time in space: 12 days, 7 hours, 12 minutes  
DIED: May 2, 2007

**SCOBEE**, Francis R., Major, U.S. Air Force  
Born May 19, 1939, in Cle Elum, Wash.  
Bachelor of Science in Aerospace Engineering from University of Arizona  
STS-41C on Space Shuttle Challenger in 1984  
Total time in space: 6 days, 23 hours, 40 minutes  
DIED: Jan. 28, 1986

**SEARFOSS**, Richard A., Colonel, U.S. Air Force  
Born June 5, 1956, in Mount Clemens, Mich.; hometown: Portsmouth, N.H.  
Bachelor of Science in Aeronautical Engineering from the U.S. Air Force Academy  
Master of Science in Aeronautics from California Institute of Technology  
STS-58 on Space Shuttle Columbia in 1993  
STS-76 on Space Shuttle Atlantis in 1996  
STS-90 on Space Shuttle Columbia in 1998  
Total time in space: 39 days, 3 hours, 19 minutes  
DIED: Sept. 29, 2018

**SEE**, Elliot M., Jr.  
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  
DIED: Feb. 28, 1966

**SELLERS**, Piers J., Ph.D.  
Born April 11, 1955, in Crowborough, Sussex, U.K.  
Bachelor of Science in Ecological Science from the University of Edinburgh  
(Scotland)  
Doctor of Philosophy in Biometeorology from Leeds University (U.K.)  
STS-112 on Space Shuttle Atlantis in 2002  
STS-121 on Space Shuttle Discovery in 2006  
STS-132 on Space Shuttle Atlantis in 2010  
6 spacewalks for a total time of 41 hours, 10 minutes  
Total time in space: 34 days, 23 hours, 4 minutes  
DIED: December 23, 2016

**SHEPARD**, Alan B. Jr., Rear Admiral, U.S. Navy  
Born Nov. 18, 1923, in East Derry, N.H.

Bachelor of Science from U.S. Naval Academy  
Mercury 3 in 1961  
Apollo 14 in 1971  
2 spacewalks for a total time of 9 hours, 35 minutes  
Total time in space: 9 days, 57 minutes  
DIED: July 21, 1998

**SLAYTON**, Donald K., major, U.S. Air Force Reserve  
Born March 1, 1924, in Sparta, Wis.  
Bachelor of Science in Aeronautical Engineering from University of Minnesota  
Apollo-Soyuz Test Project in 1975  
Total time in space: 9 days, 1 hour 28, minutes  
DIED: June 13, 1993

**SMITH**, Michael J., Captain, U.S. Navy  
Born Aug. 30, 1945, in Beaufort, N.C.  
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  
DIED: Jan. 28, 1986

**SWIGERT**, John L. Jr.  
Born Aug. 30, 1931, in Denver, Colo.  
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  
Apollo 13 in 1970  
Total time in space: 5 days, 22 hours, 54 minutes  
DIED: Dec. 27, 1982

**THORNE**, Stephen D., lieutenant Commander, U.S. Navy  
Born Feb. 11, 1953, in Frankfurt-on-Main, West Germany  
Bachelor of Science in Engineering from U.S Naval Academy  
Total time in space: 0  
DIED: May 24, 1986

**THORNTON**, William E., M.D.  
Born April 14, 1929, in Faison, N.C.  
Bachelor of Science in Physics from the University of North Carolina  
Doctor of Medicine from the University of North Carolina  
STS-8 on Space Shuttle Challenger in 1983  
STS-51B on Space Shuttle Challenger in 1985  
Total time in space: 13 days, 2 hour, 47 minutes  
DIED: January 11, 2021

**VEACH**, Charles Lacy  
Born Sept. 18, 1944, in Chicago, Ill.; hometown: Honolulu, Hawaii  
Bachelor of Science in Engineering Management from U.S. Air Force Academy  
STS-39 on Space Shuttle Discovery in 1991  
STS-52 on Space Shuttle Columbia in 1992

Total time in space: 18 days, 4 hours, 18 minutes  
DIED: Oct. 3, 1995

**VOSS**, Janice E., Ph.D.

Born Oct. 8, 1956, in South Bend, Ind.  
Bachelor of Science in Engineering Science from Purdue University  
Master of Science in Electrical Engineering from Massachusetts Institute of Technology  
Doctor in Aeronautics/Astronautics from Massachusetts Institute of Technology  
STS-57 on Space Shuttle Endeavour in 1993  
STS-63 on Space Shuttle Discovery in 1995  
STS-83 on Space Shuttle Columbia in 1997  
STS-94 on Space Shuttle Columbia in 1997  
STS-99 on Space Shuttle Endeavour in 2000  
Total time in space: 49 days, 3 hours, 50 minutes  
DIED: Feb. 6, 2012

**WALKER**, David M., Captain, U.S. Navy

Born May 20, 1944, in Columbus, Ga.; hometown: Eustis, Fla.  
Bachelor of Science from U.S. Naval Academy  
STS-51A on Space Shuttle Discovery in 1984  
STS-30 on Space Shuttle Atlantis in 1989  
STS-53 on Space Shuttle Discovery in 1992  
STS-69 on Space Shuttle Endeavour in 1995  
Total time in space: 30 days, 4 hours, 30 minutes  
DIED: April 23, 2001

**WEITZ**, Paul J., Captain, U.S. Navy

Born July 25, 1932, in Erie, Pa.  
Bachelor of Science in Aeronautical Engineering from Pennsylvania State University  
Master of Science in Aeronautical Engineering from the U.S. Naval Postgraduate School  
Skylab 2 in 1973  
STS-6 on Space Shuttle Challenger in 1983  
1 spacewalk for a total time of 1 hour, 36 minutes  
Total time in space: 33 days, 1 hour, 13 minutes  
DIED: Oct. 24, 2017

**WHITE**, Edward H. II, Lieutenant Colonel, U.S. Air Force

Born Nov. 14, 1930, in San Antonio, Texas  
Bachelor of Science from U.S. Military Academy  
Master of Science in Aeronautical Engineering from University of Michigan  
Gemini 4 in 1965  
1 spacewalk for a total time of 36 minutes  
Total time in space: 4 days, 1 hour, 56 minutes  
DIED: Jan. 27, 1967

**WILLIAMS**, Clifton C. Jr., Major, U.S. Marine Corps

Born Sept. 26, 1932, in Mobile, Ala.  
Bachelor of Science in Mechanical Engineering from Auburn University  
Total time in space: 0

DIED: Oct. 5, 1967

**WILLIAMS**, Donald E., Captain, U.S. Navy

Born Feb. 13, 1958 in Lafayette, Ind.

Bachelor of Science in Mechanical Engineering from Purdue University

STS-51D on Space Shuttle Discovery in 1985

STS-34 on Space Shuttle Atlantis in 1989

Total time in space: 11 days, 23 hours, 34 minutes

DIED: Feb. 23, 2016

**WORDEN**, Alfred M., Colonel, U.S. Air Force (retired)

Born Feb. 7, 1932, in Jackson, Mich.

Bachelor of Science in Military Science from the U.S. Military Academy

Master of Science in Astronautical & Aeronautical Engineering & Instrumentation  
Engineering from the University of Michigan

Apollo 15 in 1971

1 spacewalk for a total time of 41 minutes

Total time in space: 12 days, 7 hours, 12 minutes

DIED: March 18, 2020

**YOUNG**, John W., Captain, U.S. Navy

Born Sept. 24, 1930, in San Francisco, Calif.

Bachelor of Science in Aeronautical Engineering from the Georgia Institute  
of Technology

Gemini 3 in 1965

Gemini 10 in 1966

Apollo 10 in 1969

Apollo 16 in 1972

STS-1 on Space Shuttle Columbia in 1981

STS-9 on Space Shuttle Columbia in 1983

3 spacewalks for a total time of 20 hours, 14 minutes

Total time in space: 34 days, 19 hours, 39 minutes

DIED: Jan. 5, 2018



### 3.0 U.S. ASTRONAUT SELECTION BY GROUPS

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, Anders/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, Mitchell/USN, Pogue/USAF, Roosa/USAF, Swigert, Weitz/USN, Worden/USAF (19)

Group 6 - Scientist Astronauts, August 1967:

J. Allen, Chapman, England, Henize, 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 Hoften/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, Gutierrez/USAF, Hammond/USAF, Ivins,

Lee/USAF, Low, McCulley/USN, W. Shepherd/USN, K. Thornton, Veach/ANG, Wetherbee/USN (17)

GROUP 11 - Pilots and Mission Specialists, June 1985:

Apt, M. Baker/USN, Cabana/USMC, Duffy/USAF, Gemar/USA, Godwin, Hendricks/USAF, Hieb, Jernigan, Meade/USAF, Oswald/USNR, Thorne/USN, Thuot/USN (13)

GROUP 12 - Pilots and Mission Specialists, August 1987:

Akers/USAF, A. Allen/USMC, Bowersox/USN, C. Brown/USAF, Chilton/USAF, Davis, Foale, Harbaugh, Jemison, McMonagle/USAF, Melnick/USCG, Readdy/USN, Reightler/USN, Runco/USN, James Voss/USA (15)

GROUP 13 - Pilots and Mission Specialists, January 1990:

Bursch/USN, Chiao, Clifford/USA, Cockrell/USN, E. Collins/USAF, Currie (Sherlock) USA, W. Gregory/USAF, Halsell/USAF, Harris, Helms/USAF, Jones, W. McArthur/USA, Newman, Ochoa, Precourt/USAF, Searfoss/USAF, Sega/USAFR, D. Thomas, Janice Voss, Walz/USAF, Wilcutt/USMC, Wisoff, Wolf/ANG (23)

GROUP 14 - Pilots and Mission Specialists, March 1992:

Barry, Brady/USN, Coleman/USAF, Gernhardt, Grunsfeld, Horowitz/USAF, Jett/USN, Kregel/, Lawrence/USN, Linenger/USN, Linnehan, Lopez-Alegria/USN, Parazynski, Rominger/USN, W. Scott/USN, S. Smith, Tanner, A. Thomas, M. Weber (19)

GROUP 15 - Pilots and Mission Specialists, January 1995:

Altman/USN, M. Anderson/USAF, Ashby/USN, Bloomfield/USAF, Chawla, Curbeam/USN, Edwards/USN, Gorie/USN, Hire/USNR, Husband/USAF, Kavandi, Lindsey/USAF, Lu, Melroy/USAF, Noriega/USMC, Reilly/USNR, S. Robinson, Kilrain (Still)/USN, Sturckow/USMC (19)

GROUP 16 - Pilots and Mission Specialists, May 1996:

D. Brown/USN, Burbank/USCG, Cagle/USAF, Caldeiro, Camarda, Carey/USAF, Clark/USN, Fincke/USAF, Forrester/USA, Frick/USN, Herrington/USN, Higginbotham, Hobaugh/USMC, J. Kelly/USAF, M. Kelly/USN, S. Kelly/USN, Lockhart/USAF, Loria/USMC, Magnus, Massimino, Mastracchio, McCool/USN, Morin/USN, Nowak/USN, Pettit, Phillips/USNR, Polansky, P. Richards, Sellers, Stefanyshyn-Piper/USN, Tani, Walheim/USAF, Whitson, J. Williams/USA, Wilson (35)

GROUP 17 - Pilots and Mission Specialists, June 1998:

C. Anderson, Archambault/USAF, Dyson (Caldwell), Chamitoff, Creamer/USA, Ferguson/USN, Foreman/USN, Fossum/USAFR, Ham/USN, G.C. Johnson/USNR, G.H. Johnson (Box)/USAF, Love, Melvin, B. Morgan, Oefelein/USN, Olivas, Patrick, Poindexter/USN, Reisman, Robertson, Swanson, Wheelock/USA, S. Williams/USN, Woodward/USN, Zamka/USMC (25)

GROUP 18 - Pilots and Mission Specialists, July 2000:

Antonelli/USN, Barratt, Behnken/USAF, Boe/USAF, Bowen/USN, Drew/USAF, Feustel, Ford/USAF, Garan/USAF, Good/USAF, Hurley/USMC, Kopra/USA, M. McArthur, Nyberg, Stott, Virts/USAF, Wilmore/USN (17)

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), Satcher, 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)

GROUP 21 – U.S. Astronauts, June 2013  
Cassada/USN, Glover/USN, Hague/USAF, Koch, Mann/USMC, McClain/USA, Meir, A. Morgan/USA (8)

GROUP 22- U.S. Astronauts, June 2017  
Barron/USN, Cardman, Chari/USAF, Dominick/USN, Hines/USAF, Hoburg, Kim/USN, Moghbeli/USMC, O'Hara, Rubio/USA, Watkins

GROUP 23- U.S. Astronauts, December 2021  
Ayers/USAF, Berrios/USAF, Birch, Burnham/USN, Delaney/USMC, Douglas, Hathaway/USN, Menon/USAF, Williams, Wittner/USN

#### **4.0 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 group 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. space shuttle and the 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.

Robert Crippen was presented the medal for his dedicated service to the country as a military aviator, test pilot, engineer, and astronaut, including his assignment as pilot for the historic STS-1 mission, the first orbital spaceflight of the Space Shuttle program. In the same month as the 25th anniversary of STS-1, the medal was presented by NASA Administrator Michael Griffin in the name of President George W. Bush on April 26, 2006.

## 5.0 ASTRONAUTS AFFILIATIONS TO STATES

### 5.1 ASTRONAUT BIRTHPLACES

STATE	ASTRONAUT	STATUS
Alabama (6)	Hartsfield, Hank	Deceased
	Hire, Kathryn	Former
	Jemison, Mae	Former
	Thornton, Kathryn	Former
	Voss, James S.	Former
	Williams, Clifton C.	Deceased
Alaska (1)	Burnham, M. Deniz	Candidate
Arizona (3)	Birch, M. Christina	Candidate
	Creamer, T. J.	Management
	Smith, Steven	Former
Arkansas (2)	Covey, Richard	Former
	Parazynski, Scott	Former
California (30)	Acaba, Joseph	Active
	Dyson, Tracy Caldwell	Active
	Cassada, Josh A.	Active
	Chamitoff, Gregory	Former
	Chilton, Kevin	Former
	Clifford, Michael	Former
	Coats, Michael	Former
	Glover, Victor J.	Active
	Hauck, Rick	Former
	Hernandez, Jose	Former
	Kim, Jonny	Active
	Lindsey, Steve	Former
	Love, Stanley	Management
	Mann, Nicole Anuapu	Active
	McCulley, Michael	Former
	McCool, Willie	Deceased
	Melroy, Pamela	Management
	Morgan, Barbara	Former
	Ochoa, Ellen	Former
	O'Connor, Bryan	Former
Olivas, John "Danny"	Former	
Poindexter, Alan	Deceased	
Ride, Sally	Deceased	
Robinson, Steve	Former	
Rubio, Frank	Active	
Sturckow, Rick	Former	
van Hoften, James	Former	
Walheim, Rex	Former	
Wittner, A. Jessica	Candidate	

Colorado (11)	Young, John	Deceased
	Ayers, Nichole	Candidate
	Brand, Vance	Former
	Carpenter, Scott	Deceased
	Carr, Gerald	Deceased
	Dominick, Matthew	Active
	Fischer, Jack	Former
	Lounge, John "Mike"	Deceased
	Metcalf-Lindenburger, Dottie	Former
	Rominger, Kent	Former
	Roosa, Stuart	Deceased
Connecticut (7)	Swigert, John	Deceased
	Barry, Dan	Former
	Burbank, Dan	Former
	Hathaway, Jack	Candidate
	Mastracchio, Richard	Former
	Rubins, Kathleen "Kate"	Active
	Spring, Sherwood "Woody"	Former
DC (4)	Thuot, Pierre	Former
	Drew, B. Alvin	Management
	Gregory, Fred	Former
	Nowak, Lisa	Former
Delaware (1)	Stewart, Robert	Former
Florida (8)	Currie, Nancy	Former
	Boe, Eric	Active
	Davis, Jan	Former
	Delaney, Luke	Candidate
	Lawrence, Wendy	Former
	Lenoir, William	Deceased
	Richards, Richard	Former
	Scott, Winston	Former
	Thagard, Norman	Former
	Georgia (5)	Bridges, Roy
Carter, Manley "Sonny"		Deceased
Hammond, Blaine		Former
Kilrain, Susan (Still)		Former
Walker, David		Deceased
Hawaii (2)	McArthur, Megan	Active
	Onizuka, Ellison	Deceased
Idaho (2)	Barron, Kayla	Active
	Reilly, James	Former
Illinois (15)	Altman, Scott	Former
	Archambault, Lee J.	Former
	Cardman, Zena	Active
	Cernan, Eugene	Deceased

	Grunsfeld, John	Former
	Higginbotham, Joan	Former
	Kerwin, Joe	Former
	Magnus, Sandy	Former
	Mattingly, Tom	Former
	McDivitt, James "Jim"	Deceased
	Meade, Carl	Former
	Nagel, Steve	Deceased
	Tanner, Joe	Former
	Veach, Charles "Lacy"	Deceased
	Woodward, Neil	Former
Indiana (11)	Allen, Joe	Former
	Auñón-Chancellor, Serena	Active
	Borman, Frank	Former
	Brown, Mark	Former
	England, Anthony "Tony"	Former
	Ford, Kevin	Former
	Grissom, Virgil "Gus"	Deceased
	Ross, Jerry	Former
	Voss, Janice E.	Deceased
	Williams, Donald	Deceased
	Wolf, David	Former
Iowa (7)	Clark, Laurel	Deceased
	Cunningham, Walter	Former
	Hilmers, Dave	Former
	Kelly, James "Jim"	Management
	Nelson, George	Former
	Shriver, Loren	Former
	Whitson, Peggy	Former
Kansas (4)	Engle, Joseph	Former
	Evans, Ronald	Deceased
	Hague, Tyler N. "Nick"	Active
	Hawley, Steven	Former
Kentucky (2)	Bresnik, Randolph "Randy"	Active
	Wilcutt, Terrance "Terry"	Management
Louisiana (2)	Gorie, Dominic	Former
	Halsell, James	Former
Maine (2)	Hobaugh, Charles	Former
	Meir, Jessica U.	Active
Maryland (9)	Arnold, Richard "Ricky"	Management
	Curbeam, Robert	Former
	Ivins, Marsha	Former
	Jones, Tom	Former
	Reightler, Kenneth	Former
	Virts, Terry	Former



	Watkins, Jessica	Active
	Wiseman, G. Reid	Active
	Williams, L. Christopher	Candidate
Massachusetts (13)	Apt, Jay	Former
	Bowen, Steve	Active
	Cassidy, Christopher J.	Former
	Duffy, Brian	Former
	Linnehan, Richard	Management
	Loria, Chris	Former
	Lu, Ed	Former
	McCandless, Bruce	Deceased
	Musgrave, Story	Former
	O'Leary, Brian	Deceased
	Precourt, Charlie	Former
	Tingle, Scott	Active
	Wilson, Stephanie	Active
Michigan (11)	Antonelli, Dominic "Tony"	Former
	Bloomfield, Michael	Former
	Chaffee, Roger	Deceased
	Jett, Brent	Former
	Leestma, David	Former
	Linenger, Jerry	Former
	Lousma, Jack	Former
	McMonagle, Donald	Former
	Searfoss, Richard	Deceased
	Shaw, Brewster	Former
	Worden, Al	Deceased
Minnesota (6)	Cabana, Robert	Management
	Carey, Duane	Former
	Gardner, Dale	Deceased
	Menon, S. Anil	Candidate
	Nyberg, Karen	Former
	Stefanyshyn-Piper, H.M.	Former
Mississippi (3)	Haise, Fred	Former
	Peterson, Donald	Deceased
	Truly, Richard	Former
Missouri (6)	Akers, Thomas	Former
	Behnken, Robert	Former
	Godwin, Linda	Former
	Hopkins, Mike	Active
	Kavandi, Janet	Former
	Springer, Robert	Former
Nebraska (1)	Anderson, Clayton	Former
New Hampshire (2)	Morin, Lee	Management
	Shepard, Alan	Deceased

New Jersey (10)	Aldrin, Edwin "Buzz"	Former
	Ham, Ken	Former
	Kelly, Mark	Former
	Kelly, Scott	Former
	Polansky, Mark	Former
	Reisman, Garrett	Former
	Schirra, Walter "Wally"	Deceased
	Schweickart, Russell "Rusty"	Former
	Sullivan, Kathy	Former
	Zamka, George	Former
New Mexico (2)	Gutierrez, Sidney	Former
	Schmitt, Harrison	Former
New York (26)	Adamson, James	Former
	Anderson, Michael	Deceased
	Bobko, Karol	Former
	Cagle, Yvonne	Management
	Camarda, Charles J.	Management
	Cleave, Mary	Former
	Collins, Eileen	Former
	Epps, Jeanette	Active
	Fisher, Anna	Former
	Fullerton, Gordon	Deceased
	Garan, Ronald	Former
	Gibson, Edward	Former
	Gibson, Robert	Former
	Grabe, Ron	Former
	Gregory, William	Former
	Hurley, Douglas	Former
	Hoffman, Jeffrey	Former
	Kregel, Kevin	Former
	Massimino, Michael	Former
	Melnick, Bruce	Former
	Parker, Robert	Former
	Runco, Mario	Former
	Stott, Nicole	Former
	Swanson, Steve	Former
	Wetherbee, James	Former
	Wheelock, Douglas	Active
North Carolina (11)	Baker, Ellen	Former
	Brady, Charles	Deceased
	Brown, Curt	Former
	Duke, Charlie	Former
	Helms, Susan	Former
	Hines, Robert "Bob" T.	Active
	Koch, Christina Hammock	Active

	Marshburn, Tom	Former
	McArthur, William "Bill"	Former
	Smith, Michael	Deceased
	Thornton, William "Bill"	Deceased
North Dakota (2)	Buchli, James	Former
	Hieb, Richard	Former
Ohio (20)	Armstrong, Neil	Deceased
	Bassett, Charles	Deceased
	Cameron, Kenneth	Former
	Eisele, Donn	Deceased
	Foreman, Michael	Former
	Gernhardt, Michael	Former
	Glenn, John	Deceased
	Good, Michael	Former
	Harbaugh, Greg	Former
	Henize, Karl	Deceased
	Henricks, Terence	Former
	Lovell, James	Former
	Low, G. David	Deceased
	Overmyer, Robert	Deceased
	Resnik, Judy	Deceased
	Sega, Ronald	Former
	Thomas, Donald	Former
	Walz, Carl	Former
	Weber, Mary Ellen	Former
	Williams, Sunita	Active
Oklahoma (5)	Cooper, Gordon	Deceased
	Garriott, Owen	Deceased
	Herrington, John	Former
	Pogue, William	Deceased
	Stafford, Thomas	Former
Oregon (3)	Dutton, James	Former
	Griggs, S. David	Deceased
	Pettit, Donald	Active
Pennsylvania (18)	Allen, Andy	Former
	Bagian, James	Former
	Bluford, Guion	Former
	Bursch, Daniel	Former
	Conrad, Charles	Deceased
	Ferguson, Chris	Former
	Feustel, Drew	Active
	Fincke, Michael	Active
	Freeman, Theodore	Deceased
	Frick, Steven	Former
	Hart, Terry	Former

	Hoburg, Warren "Woody"	Active
	Horowitz, Scott	Former
	Irwin, James	Deceased
	Richards, Paul	Management
	Robertson, Patricia	Deceased
	Tani, Daniel	Former
	Weitz, Paul	Deceased
Rhode Island (1)	Readdy, William	Former
South Carolina (5)	Bolden, Charles	Former
	Casper, John	Former
	Coleman, Catherine "Cady"	Former
	Culbertson, Frank	Former
	McNair, Ronald	Deceased
South Dakota (2)	Fossum, Michael	Former
	Gemar, Charles "Sam"	Former
Tennessee (6)	Baker, Michael	Former
	Bull, John	Deceased
	Jernigan, Tammy	Former
	Seddon, Margaret	Former
	Shepherd, William	Former
	Wilmore, Barry "Butch"	Active
Texas (23)	Ashby, Jeff	Former
	Bean, Alan	Deceased
	Blaha, John	Former
	Cockrell, Ken	Former
	Creighton, John	Former
	Crippen, Robert	Former
	Fabian, John	Former
	Fisher, William	Former
	Forrester, Patrick	Management
	Givens, Edward	Deceased
	Harris, Bernard	Former
	Holmquest, Donald	Former
	Husband, Rick	Deceased
	Kimbrough, Robert "Shane"	Former
	Kopra, Tim	Former
	Lockhart, Paul	Former
	Mitchell, Edgar	Deceased
	Mullane, Mike	Former
	O'Hara, Loral	Active
	Scott, David	Former
	See, Eliot	Deceased
	Walker, Shannon	Active
	White, Edward	Deceased
Utah (1)	Lind, Don	Former

Vermont (1)	Graveline, Duane	Deceased
Virginia (11)	Bowersox, Ken	Management
	Brown, David	Deceased
	Douglas, Andre	Candidate
	Edwards, Joe	Former
	Gardner, Guy	Former
	Melvin, Leland	Former
	Oefelein, Bill	Former
	Phillips, John	Former
	Satcher, Robert "Bobby"	Former
	Vande Hei, Mark	Active
	Wisoff, Peter J.K. (Jeff)	Former
Washington (7)	Barratt, Mike	Active
	Dunbar, Bonnie	Former
	Gordon, Richard	Deceased
	Johnson, Greg C.	Former
	McClain, Anne C.	Active
	Oswald, Steve	Former
	Scobee, Richard	Deceased
West Virginia (2)	McBride, John	Former
	Morgan, Andrew R.	Active
Wisconsin (7)	Brandenstein, Daniel	Former
	Chari, Raja	Active
	Chiao, Leroy	Former
	Lee, Mark	Former
	Michel, Curtis	Deceased
	Slayton, Donald K. "Deke"	Deceased
	Williams, Jeffrey "Jeff"	Management
Puerto Rico (1)	Berrios, G. Marcos	Candidate

## 5.2 ASTRONAUT HOMETOWNS

ASTRONAUT	STATUS	HOMETOWN
Acaba, Joseph M.	Active	Anaheim, Calif.
Adamson, James C.	Former	Woodbine, Md.
Akers, Thomas D.	Former	Eminence, Mo.
Aldrin, Buzz	Former	Montclair, N.J.
Allen, Andrew M.	Former	Philadelphia, Pa.
Allen, Joseph P.	Former	Crawfordsville, Ind.
Altman, Scott D.	Former	Lincoln, Ill.
Anders, William A.	Former	Hong Kong
Anderson, Clayton C.	Former	Ashland, Neb.
Anderson, Michael P.	Deceased	Spokane, Wash.
Antonelli, Dominic A.	Former	Indiana & N.C.
Apt, Jerome, III	Former	Pittsburgh, Pa.
Archambault, Lee J.	Former	Bellwood, Ill.
Armstrong, Neil A.	Deceased	Wapakoneta, Ohio
Arnold, Richard R., II	Management	Bowie, Md.
Ashby, Jeffrey S.	Former	Evergreen, Colo.
Auñón-Chancellor, Serena M.	Management	Fort Collins, Colo.
Ayers, Nichole	Candidate	Divide, Colo. & Colorado Spring, Colo.
Bagian, James P.	Former	Philadelphia, Pa.
Baker, Ellen S.	Former	New York, N.Y.
Baker, Michael A.	Former	Lemoore, Calif.
Barratt, Michael R.	Active	Camas, Wash.
Barron, Kayla	Active	Richland, Wash.
Barry, Daniel T.	Former	South Hadley, Mass.
Bassett, Charles A., II	Deceased	Dayton, Ohio
Bean, Alan L.	Deceased	Wheeler, Texas
Behnken, Robert L.	Former	St. Ann, Mo.
Berrios, Marcos	Candidate	Guaynabo, Puerto Rico
Birch, Christina	Candidate	Gilbert, Ariz.
Blaha, John E.	Former	San Antonio, Texas
Bloomfield, Michael J.	Former	Lake Fenton, Mich.
Bluford, Guion S., Jr.	Former	Philadelphia, Pa.
Bobko, Karol J.	Former	New York City
Boe, Eric A.	Active	Atlanta, Ga.
Bolden, Charles F., Jr.	Former	Alexandria, Va.
Borman, Frank	Former	Tucson, Ariz.
Bowen, Stephen G.	Active	Cohasset, Mass.
Bowersox, Kenneth D.	Management	Bedford, Ind.
Brady, Charles E., Jr.	Deceased	Pinehurst, N.C.
Brand, Vance D.	Former	Longmont, Colo.
Brandenstein, Daniel C.	Former	Watertown, Wis.

Bresnik, Randolph J.	<b>Active</b>	Santa Monica, Calif.
Bridges, Roy D., Jr.	Former	Gainesville, Ga.
Brown, Curtis L., Jr.	Former	Elizabethtown, N.C.
Brown, David M.	Deceased	Arlington, Va.
Brown, Mark N.	Former	Valparaiso, Ind.
Buchli, James F.	Former	New Rockford & Fargo, N.D.
Bull, John S.	Deceased	Memphis, Tenn.
Burbank, Daniel C.	Former	Yarmouth Port, Mass.
Burnham, Deniz	Candidate	Wasilla, Alaska
Bursch, Daniel W.	Former	Vestal, N.Y.
Cabana, Robert D.	Management	Minneapolis, Minn.
Cagle, Yvonne D.	Management	Novato, Calif.
Caldeiro, Fernando	Deceased	Merritt Island, Fla. & New York
Caldwell Dyson, Tracy E.	<b>Active</b>	Arcadia, Calif.
Camarda, Charles J.	Management	Queens, N.Y.
Cameron, Kenneth D.	Former	Cleveland, Ohio
Cardman, Zena	<b>Active</b>	Williamsburg, Va.
Carey, Duane G.	Former	St. Paul, Minn.
Carpenter, M. Scott	Deceased	Boulder, Colo.
Carr, Gerald P.	Deceased	Santa Ana, Calif.
Carter, Manley Lanier, Jr.	Deceased	Warner Robins, Ga.
Casper, John H.	Former	Gainesville, Ga.
Cassada, Josh A.	<b>Active</b>	White Bear Lake, Minn.
Cassidy, Christopher J.	Former	York, Maine
Cernan, Eugene A.	Deceased	Chicago, Ill.
Chaffee, Roger B.	Deceased	Grand Rapids, Mich.
Chamitoff, Gregory E.	Former	Montreal, Canada
Chang-Diaz, Franklin R.	Former	San Jose, Costa Rica
Chapman, Philip K.	Deceased	Melbourne, Australia
Chari, Raja	<b>Active</b>	Cedar Falls, Iowa
Chawla, Kalpana	Deceased	Karnal, India
Chiao, Leroy	Former	Danville, Calif.
Chilton, Kevin P.	Former	Los Angeles
Clark, Laurel B.	Deceased	Racine, Wis.
Cleave, Mary L.	Former	Southampton, N.Y.
Clifford, Michael R.	Deceased	Ogden, Utah
Coats, Michael L.	Former	Riverside, Calif.
Cockrell, Kenneth D.	Former	Rockdale, Texas
Coleman, Catherine G.	Former	Charleston, S.C.
Collins, Eileen M.	Former	Elmira, N.Y.
Collins, Michael	Deceased	Rome, Italy
Conrad, Charles, Jr.	Deceased	Philadelphia, Pa.
Cooper, L. Gordon, Jr.	Deceased	Shawnee, Okla.
Covey, Richard O.	Former	Fort Walton Beach, Fla.
Creamer, Timothy J.	Management	Upper Marlboro, Md.

Creighton, John O.	Former	Seattle, Wash.
Crippen, Robert L.	Former	Beaumont, Texas
Culbertson, Frank L., Jr.	Former	Holly Hill, S.C.
Cunningham, Walter	Former	Creston, Iowa
Curbeam, Robert L., Jr.	Former	Baltimore, Md.
Currie, Nancy J.	Former	Troy, Ohio
Davis, N. Jan	Former	Cocoa Beach, Fla.
Delaney, Luke	Candidate	Debary, Fla.
Dominick, Matthew	Active	Wheat Ridge, Colo.
Douglas, Andre	Candidate	Chesapeake, Va.
Drew, B. Alvin, Jr.	Management	Washington, D.C.
Duffy, Brian	Former	Boston, Mass.
Duke, Charles M., Jr.	Former	Charlotte, N.C.
Dunbar, Bonnie J.	Former	Sunnyside, Wash.
Dutton, James P., Jr.	Former	Eugene, Ore.
Edwards, Joe F., Jr.	Former	Lineville & Roanoke, Ala.
Eisele, Donn F.	Deceased	Columbus, Ohio
England, Anthony W.	Former	West Fargo, N.D.
Engle, Joe H.	Former	Dickinson County, Kan.
Epps, Jeanette J.	Active	Syracuse, N.Y.
Evans, Ronald E., Jr.	Deceased	St. Francis, Kan.
Fabian, John M.	Former	Pullman, Wash.
Ferguson, Christopher J.	Former	Philadelphia, Pa.
Feustel, Andrew J.	Active	Lake Orion, Mich.
Fincke, E. Michael	Active	Emsworth, Pa.
Fischer, Jack D.	Former	Louisville, Colo.
Fisher, Anna L.	Former	San Pedro, Calif.
Fisher, William F.	Former	Dallas, Texas
Foale, C. Michael	Former	Cambridge, England
Ford, Kevin A.	Former	Montpelier, Ind.
Foreman, Michael J.	Former	Wadsworth, Ohio
Forrester, Patrick G.	Management	El Paso, Texas
Fossum, Michael E.	Former	McAllen, Texas
Freeman, Theodore C.	Deceased	Haverford, Pa.
Frick, Stephen N.	Former	Gibsonia, Pa.
Fullerton, Charles G.	Deceased	---
Garan, Ronald J., Jr.	Former	Yonkers, N.Y.
Gardner, Dale A.	Deceased	Fairmont, Minn.
Gardner, Guy S.	Former	Alexandria, Va.
Garriott, Owen K.	Deceased	Enid, Okla.
Gemar, Charles D.	Former	Scotland, S.D.
Gernhardt, Michael L.	Former	Mansfield, Ohio
Gibson, Edward G.	Former	Buffalo, N.Y.
Gibson, Robert L.	Former	Lakewood, Calif.
Givens, Edward G., Jr.	Deceased	Quanah, Texas



Glenn, John H., Jr.	Deceased	Cambridge, Ohio
Glover, Victor J.	Active	Pomona, Calif.
Godwin, Linda M.	Former	Jackson, Mo.
Good, Michael T.	Former	Broadview Heights, Ohio
Gordon, Richard F., Jr.	Deceased	Seattle, Wash.
Gorie, Dominic L.	Former	Lake Charles, La.
Grabe, Ronald J.	Former	New York, N.Y.
Graveline, Duane E.	Deceased	Newport, Vt.
Gregory, Frederick D.	Former	Washington, D.C.
Gregory, William G.	Former	Lockport, N.Y.
Griggs, S. David	Deceased	Portland, Ore.
Grissom, Virgil I.	Deceased	Mitchell, Ind.
Grunsfeld, John M.	Former	Chicago, Ill.
Gutierrez, Sidney M.	Former	Albuquerque, N.M.
Haise, Fred W., Jr.	Former	Biloxi, Miss.
Hague, Tyler N.	Active	Hoxie, Kan.
Halsell, James D., Jr.	Former	West Monroe, La.
Ham, Kenneth T.	Former	Plainfield, N.J.
Hammond, L. Blaine, Jr.	Former	St. Louis, Mo.
Harbaugh, Gregory J.	Former	Willoughby, Ohio
Harris, Bernard A., Jr.	Former	Temple, Texas
Hart, Terry J.	Former	Pittsburgh, Pa.
Hartsfield, Henry W., Jr.	Deceased	Birmingham, Ala.
Hathaway, Jack	Candidate	South Windsor, Conn.
Hauck, Frederick H.	Former	Long Beach, Calif.
Hawley, Steven A.	Former	Salina, Kan.
Helms, Susan J.	Former	Portland, Ore.
Henize, Karl G.	Deceased	Cincinnati, Ohio
Henricks, Terence T.	Former	Woodville, Ohio
Hernandez, Jose M.	Former	Stockton, Calif.
Herrington, John B.	Former	Colorado Springs, Colo. & Riverton,
Hieb, Richard J.	Former	Wvo. & Plano. Texas
Higginbotham, Joan E.	Former	Jamestown, N.D.
Hilmers, David C.	Former	Chicago, Ill.
Hines, Robert "Bob" T.	Active	DeWitt, Iowa
Hire, Kathryn P.	Former	Harrisburg, Pa.
Hobaugh, Charles O.	Former	Mobile, Ala. & Merritt Island, Fla.
Hoburg, Warren "Woody"	Active	Bar Harbor, Maine
Hoffman, Jeffrey A.	Former	Pittsburgh, Pa.
Holmquest, Donald L.	Former	Scarsdale, N.Y.
Hopkins, Michael S.	Active	Dallas, Texas
Horowitz, Scott J.	Former	Richland, Mo.
Hurley, Douglas G.	Former	Thousand Oaks, Calif.
Husband, Rick D.	Deceased	Apalachin, N.Y.
		Amarillo, Texas

Irwin, James B.	Deceased	Pittsburgh, Pa.
Ivins, Marsha S.	Former	Baltimore, Md.
Jemison, Mae C.	Former	Chicago, Ill.
Jernigan, Tamara E.	Former	Chattanooga, Tenn.
Jett, Brent W.	Former	Ft. Lauderdale, Fla.
Johnson, Gregory C.	Former	Seattle, Wash.
Johnson, Gregory H.	Former	South Ruislip, Middlesex, U.K.
Jones, Thomas D.	Former	Baltimore, Md.
Kavandi, Janet L.	Former	Springfield, Mo.
Kelly, James "Jim" M.	Management	Burlington, Iowa
Kelly, Mark E.	Former	West Orange, N.J.
Kelly, Scott J.	Former	West Orange, N.J.
Kerwin, Joseph P.	Former	Oak Park, Ill.
Kilrain (Still), Susan L.	Former	Augusta, Ga.
Kim, Jonny	Active	Los Angeles, Calif.
Kimbrough, Robert Shane	Former	Killeen, Texas
Koch, Christina Hammock	Active	Jacksonville, N.C. & Livingston, Mont.
Kopra, Timothy L.	Former	Austin, Texas
Kregel, Kevin R.	Former	Amityville, N.Y.
Lawrence, Wendy B.	Former	Jacksonville, Fla.
Lee, Mark C.	Former	Viroqua, Wis.
Leestma, David C.	Former	Muskegon, Mich.
Lenoir, William B.	Deceased	Miami, Fla.
Lind, Don L.	Former	Midvale, Utah
Lindgren, Kjell N.	Active	England
Lindsey, Steven W.	Former	Temple City, Calif.
Linenger, Jerry M.	Former	Eastpointe, Mich.
Linnehan, Richard M.	Management	Lowell, Mass.
Llewellyn, John A.	Deceased	Cardiff, Wales, U.K.
Lockhart, Paul S.	Former	Amarillo, Texas
Lopez-Alegria, Michael E.	Former	Mission Viejo, Calif.
Loria, Christopher J.	Former	Belmont, Mass.
Lounge, J. Mike	Deceased	Burlington, Colo.
Lousma, Jack R.	Former	Grand Rapids, Mich.
Love, Stanley G.	Management	Eugene, Ore.
Lovell, James A., Jr.	Former	Cleveland, Ohio
Low, G. David	Deceased	Cleveland, Ohio
Lu, Edward T.	Former	Honolulu, Hawaii & Webster N.Y.
Lucid, Shannon W.	Former	Bethany, Okla.
Magnus, Sandra H.	Former	Belleville, Ill.
Mann, Nicole Aunapu	Active	Petaluma, Calif.
Marshburn, Thomas H.	Active	Statesville, N.C.
Massimino, Michael J.	Former	Franklin Square, N.Y.
Mastracchio, Richard A.	Former	Waterbury, Conn.
Mattingly, Thomas K., II	Former	Miami, Fla.

McArthur, K. Megan	<b>Active</b>	Calif.
McArthur, William S., Jr.	Former	Wakulla, N.C.
McBride, Jon A.	Former	Beckley, W. Va.
McCandless, Bruce, II	Deceased	Boston, Mass.
McClain, Anne C.	<b>Active</b>	Spokane, Wash.
McCool, William C.	Deceased	San Diego, Calif.
McCulley, Michael J.	Former	Livingston, Tenn.
McDivitt, James A.	Deceased	Chicago, Ill.
McMonagle, Donald R.	Former	Flint, Mich.
McNair, Ronald E.	Deceased	Lake City, S.C.
Meir, Jessica U.	<b>Active</b>	Caribou, Maine
Melnick, Bruce E.	Former	Inglis, Fla.
Melroy, Pamela A.	<b>Management</b>	Palo Alto, Calif.
Melvin, Leland D.	Former	Lynchburg, Va.
Menon, Anil	Candidate	Minneapolis, Minn.
Metcalfe-Lindenberger, Dorothy	Former	Fort Collins, Colo.
Michel, F. Curtis	Deceased	La Crosse, Wis.
Mitchell, Edgar D.	Deceased	Artesia, N.M.
Moghbeli, Jasmin	<b>Active</b>	Baldwin, N.Y.
Morgan, Andrew R.	<b>Active</b>	New Castle, Pa.
Morgan, Barbara R.	Former	Fresno, Calif.
Morin, Lee M.	<b>Management</b>	Manchester, N.H.
Mullane, Richard M.	Former	Albuquerque, N.M.
Musgrave, Story	Former	Lexington, Ky.
Nagel, Steven R.	Deceased	Canton, Ill.
Nelson, George D.	Former	Willmar, Minn.
Newman, James H.	Former	San Diego, Calif.
Noriega, Carlos I.	Former	Santa Clara, Calif.
Nowak, Lisa M.	Former	Washington, D.C.
Nyberg, Karen L.	Former	Vining, Minn.
O'Connor, Bryan D.	Former	Twentynine Palms, Calif.
O'Hara, Loral	<b>Active</b>	Sugar Land, Texas
O'Leary, Brian T.	Deceased	Boston, Mass.
Ochoa, Ellen	Former	La Mesa, Calif.
Oefelein, William A.	Former	Anchorage, Alaska
Olivas, John D.	Former	El Paso, Texas
Onizuka, Ellison S.	Deceased	Kealahakua, Kona, Hawaii
Oswald, Stephen S.	Former	Bellingham, Wash.
Overmyer, Robert F.	Deceased	Westlake, Ohio
Parazynski, Scott E.	Former	Little Rock, Ark.
Parker, Robert A.	Former	Shrewsbury, Mass.
Patrick, Niclolas J. M.	Former	London, England & Rye, N.Y.
Peterson, Donald H.	Deceased	Winona, Miss.
Pettit, Donald R.	<b>Active</b>	Silverton, Oregon
Phillips, John L.	Former	Fort Belvoir, Va.

Pogue, William R.	Deceased	Okemah, Okla.
Poindexter, Alan G.	Deceased	Rockville, Md.
Polansky, Mark L.	Former	Edison, N.J.
Precourt, Charles J.	Former	Hudson, Mass.
Readdy, William F.	Former	McLean, Va.
Reightler, Kenneth S., Jr.	Former	Virginia Beach, Va.
Reilly, James F., II	Former	Mesquite, Texas
Reisman, Garrett E.	Former	Parsippany, N.J.
Resnik, Judith A.	Deceased	Akron, Ohio
Richards, Paul W.	Management	Dunmore Pa.
Richards, Richard N.	Former	Houston, Texas
Ride, Sally K.	Deceased	Los Angeles, Calif.
Robertson, Patricia Hilliard	Deceased	Indiana, Pa.
Robinson, Stephen K.	Former	Sacramento, Calif.
Rominger, Kent V.	Former	Del Norte, Colo.
Roosa, Stuart A.	Deceased	Durango, Colo.
Ross, Jerry L.	Former	Crown Point, Ind.
Rubins, Kathleen (Kate)	Active	Napa, Calif.
Rubio, Frank	Active	Miami, Fla.
Runco, Mario, Jr.	Former	Bronx, N.Y.
Satcher, Robert L., Jr.	Former	Hampton, Va.
Schirra, Walter M., Jr.	Deceased	Hackensack, N.J.
Schmitt, Harrison H.	Former	Santa Rita, N.M.
Schweickart, Russell L.	Former	Neptune, N.J.
Scobee, Francis R.	Deceased	Cle Elum, Wash.
Scott, David R.	Former	San Antonio, Texas
Scott, Winston E.	Former	Miami, Fla.
Searfoss, Richard A.	Deceased	Mount Clemens, Mich.
Seddon, Margaret Rhea	Former	Murfreesboro, Tenn.
See, Elliot M., Jr.	Deceased	Dallas, Texas
Sega, Ronald M.	Former	Cleveland, Ohio
Sellers, Piers J.	Deceased	Crowborough, Sussex, U.K.
Shaw, Brewster H., Jr.	Former	Cass City, Mich.
Shepard, Alan B., Jr.	Deceased	East Derry, N.H.
Shepherd, William M.	Former	Babylon, N.Y.
Shriver, Loren J.	Former	Paton, Iowa
Slayton, Donald K.	Deceased	Sparta, Wis.
Smith, Michael J.	Deceased	Beaufort, N.C.
Smith, Steven L.	Former	San Jose, Calif.
Spring, Sherwood C.	Former	Harmony, R.I.
Springer, Robert C.	Former	Ashland, Ohio
Stafford, Thomas P.	Former	Weatherford, Okla.
Stefanyshyn-Piper, Heidemarie	Former	St. Paul, Minn.
Stewart, Robert L.	Former	Washington, D.C.
Stott, Nicole P.	Former	Clearwater, Fla.

Sturckow, Frederick W.	Former	Lakeside, Calif.
Sullivan, Kathryn D.	Former	Woodland Hills, Calif.
Swanson, Steven R.	Former	Steamboat Springs, Colo.
Swigert, John L., Jr.	Deceased	Denver, Colo.
Tani, Daniel M.	Former	Lombard, Ill.
Tanner, Joseph R.	Former	Danville, Ill.
Thagard, Norman E.	Former	Jacksonville, Fla.
Thomas, Andrew S. W.	Former	Adelaide, South Australia
Thomas, Donald A.	Former	Cleveland, Ohio
Thorne, Stephen D.	Deceased	Frankfurt-on-Main, West Germany
Thornton, Kathryn C.	Former	Montgomery, Ala.
Thornton, William E.	Deceased	Faison, N.C.
Thuot, Pierre J.	Former	Fairfax, Va. & New Bedford, Mass.
Tingle, Scott D.	Active	Randolph, Mass.
Truly, Richard H.	Former	Fayette, Miss.
van Hoften, James D.	Former	Burlingame, Calif.
Vande Hei, Mark T.	Active	Chanhassen, Minn.
Veach, Charles Lacy	Deceased	Honolulu, Hawaii
Virts, Terry W., Jr.	Former	Columbia, Md.
Voss, James S.	Former	Opelika, Ala.
Voss, Janice E.	Deceased	Rockford, Ill.
Walheim, Rex J.	Former	San Carlos, Calif.
Walker, David M.	Deceased	Columbus, Ga.
Walker, Shannon	Active	Houston, Texas
Walz, Carl E.	Former	Cleveland, Ohio
Watkins, Jessica	Active	Lafayette, Colo.
Weber, Mary E.	Former	Bedford Heights, Ohio
Weitz, Paul J.	Deceased	Erie, Pa.
Wetherbee, James D.	Former	Huntington Station, N.Y.
Wheelock, Douglas H.	Active	Windsor, N.Y.
White, Edward H., II	Deceased	San Antonio, Texas
Whitson, Peggy A.	Former	Beaconsfield, Iowa
Wilcutt, Terrence W.	Management	Louisville, Ky.
Williams, Christopher	Candidate	Potomac, Md.
Williams, Clifton C., Jr.	Deceased	Mobile, Ala.
Williams, Donald E.	Deceased	Lafayette, Ind.
Williams, Jeffrey N.	Management	Winter, Wis.
Williams, Sunita L.	Active	Needham, Mass.
Wilmore, Barry E.	Active	Mt. Juliet, Tenn.
Wilson, Stephanie D.	Active	Boston, Mass.
Wiseman, G. Reid	Active	Baltimore, Md.
Wisoff, Peter J. K.	Former	Norfolk, Va.
Wittner, Jessica	Candidate	Clovis, Calif.
Wolf, David A.	Former	Indianapolis, Ind.
Woodward, Neil W., III	Former	Chicago, Ill.

Worden, Alfred M.  
Young, John W.

Deceased  
Deceased

Jackson, Mich.  
San Francisco, Calif.  
New York & Irvington, N.Y. &  
Rochester Hills, Mich. & Medellin,

Zamka, George D.

Former

### 5.3 ASTRONAUT COLLEGES

#### ALABAMA

- Auburn University (6)  
*Former:* J. Davis, T. Mattingly, K. Thornton, J.S. Voss  
*Deceased:* H. Hartsfield, C. Williams
- Troy State (4)  
*Former:* K. Ford, W. Gregory, J. Halsell, K. Kregel
- University of Alabama (2)  
*Active:* R.T. Hines  
*Management:* J. Kelly
- University of Alabama-Huntsville (1)  
*Former:* J. Davis
- University of Alabama-Birmingham (1)  
*Management:* L. Morin
- Air University (1)  
*Active:* V. Glover
- Air War College (1)  
*Active:* Randy Bresnik

#### ARIZONA

- University of Arizona (7)  
*Active:* J. Acaba, D. Pettit  
*Former:* T. Jones, S. Spring  
*Deceased:* F. Caldeiro, D. Scobee  
*Candidate:* C. Birch, J. Wittner

#### CALIFORNIA

- Naval Postgraduate School (37)  
*Active:* M. Dominick, V. Glover, J. Moghbeli,  
*Former:* S. Altman, D. Bursch, M. Coats, R. Curbeam, C. Ferguson, M. Foreman, S. Frick, K. Ham, J. Herrington, D. Hilmers, B. Jett, M. Kelly, D. Leestma, M. Lopez-Algeria, J. Lousma, J. McBride, C. Noriega, L. Nowak, K. Reightler, K. Rominger, W. Scott, R. Springer, J. Williams  
*Deceased:* G. Carr, E. Cernan, R. Evans, W. McCool, E. Mitchell, R. Overmyer, A. Poindexter, M. Smith, P. Weitz  
*Candidate:* L. Delaney, J. Wittner
- Stanford University (26)  
*Active:* M. Fincke, M. Hopkins, N. Mann, K. Rubins, M. Vande Hei, J. Watkins  
*Former:* E. Collins, W. Fisher, S. Helms, M. Jemison, T. Jernigan, E. Lu, B. Morgan, E. Ochoa, S. Parazynski, S. Robinson, S. Smith, J. Wisoff  
*Deceased:* J. Bull, O. Garriott, D. Low, B. McCandless, S. Ride  
*Candidate:* M. Berrios, A. Menon, C. Williams

- Stanford Medical School (1)  
*Candidate:* A. Menon
- California Institute of Technology (11)  
*Former:* F. Borman, G. Chamitoff, E. Gibson, C. Meade, R. Parker, G. Reisman, H. Schmitt, R. Behnken  
*Deceased:* C.G. Fullerton, C. Michel, R. Searfoss
- University of Southern California (11)  
*Former:* K. Bobko, C. Bolden, N. Currie, B. Duffy, J. Linenger, C. Noriega, K. Reightler, P. Thuot  
*Deceased:* N. Armstrong, G. Carr  
*Candidate:* D. Burnham
- University of California-Berkeley (9)  
*Active:* W. Hoburg  
*Former:* L. Chiao, T. Jernigan, D. Lind, M. Seddon, J. van Hoften, R. Walheim, M. Weber  
*Deceased:* B. O'Leary
- University of California-Los Angeles (9)  
*Active:* M. McArthur, J. Watkins  
*Former:* V. Brand, W. Cunningham, A. Fisher, S. Musgrave, J. Phillips  
*Deceased:* E. See  
*Candidate:* D. Burnham
- California Polytechnic (4)  
*Active:* V. Glover  
*Former:* G. Chamitoff, R. Gibson, R. Sturckow
- California State-Fresno (3)  
*Former:* D. McMonagle  
*Deceased:* R. Husband, S. Nagel
- California State University-Fullerton (1)  
*Active:* T.C. Dyson
- California State University-Northridge (1)  
*Former:* S. Horowitz
- University of California-Santa Barbara (3)  
*Active:* J. Acaba  
*Former:* L. Chiao, J. Hernandez
- Golden Gate (2)  
*Former:* T. Henricks, C. Precourt
- Harvey Mudd (2)  
*Management:* S. Love  
*Former:* G. Nelson
- University of California-Davis (2)  
*Active:* T.C. Dyson  
*Former:* S. Robinson
- University of California-San Diego (3)  
*Active:* M. McArthur, K. Rubins  
*Candidate:* D. Burnham
- University of California-Santa Cruz (2)  
*Former:* S. Hawley, K. Sullivan
- University of San Diego

*Active:* M. Dominick, J. Kim

- San Diego State (1)

*Former:* E. Ochoa

- San Francisco State (1)

*Management:* Y. Cagle

- University of Pacific (1)

*Former:* J. Hernandez

- Air University (1)

*Active:* V. Glover

- Scripps Institution of Oceanography (1)

*Active:* J. Meir

## **COLORADO**

- United States Air Force Academy (38)

*Active:* E. Boe, R. Chari, T. Hague, K. Lindgren

*Management:* B.A. Drew, J. Kelly

*Former:* J. Blaha, M. Bloomfield, K. Bobko, R. Bridges, C. Brown, J. Casper, K. Chilton, R. Covey, B. Duffy, J. Dutton, J. Fischer, G. Gardner, R. Grabe, F. Gregory, W. Gregory, S. Gutierrez, J. Halsell, B. Hammond, S. Helms, T. Hendricks, G.H. Johnson, T. Jones, K. Kregel, M. Lee, S. Lindsey, D. McMonagle, C. Precourt, R. Sega, L. Shriver, T. Virts

*Deceased:* R. Searfoss, C. Veach

*Candidate:* N. Ayers

- University of Colorado (14)

*Active:* K. Lindgren

*Former:* V. Brand, J. Herrington, R. Hieb, M. Ivins, R. Sega, S. Swanson, J.S. Voss

*Deceased:* S. Carpenter, K. Chawla, M. Lounge, E. Onizuka, S. Roosa, J. Swigert

- Colorado State (4)

*Active:* K. Lindgren

*Former:* M. Cleave, K. Rominger, J. van Hoften

## **CONNECTICUT**

- Coast Guard Academy (3)

*Former:* D. Burbank, B. Melnick

*Candidate:* A. Douglas

- University of Connecticut (2)

*Former:* F. Chang-Diaz, R. Mastracchio

- Hartford (1)

*Deceased:* J. Swigert

- Yale (1)

*Former:* J. Allen

## **DISTRICT OF COLUMBIA**

- George Washington University (7)

*Active:* S. Auñón-Chancellor

*Management:* C. Camarda

*Former:* M. Coats, J. Creighton, F. Gregory, N. Woodward

*Deceased:* D. Griggs



*Candidate:* A. Douglas

- Georgetown (1)

*Deceased:* B. O'Leary

## FLORIDA

- Embry-Riddle University (6)

*Management:* A. Drew

*Former:* D. Burbank, R. Garan, S. Still-Kilrain, N. Stott, T. Virts

- University of West Florida (6)

*Former:* J. Buchli, K. Cockrell, B. Melnick, B. O'Connor, J. Phillips

*Deceased:* R. Richards

- Florida Institute of Technology (4)

*Active:* S. Williams

*Former:* J. Higginbotham, K. Hire, G. Zamka

- University of Florida (3)

*Former:* W. Fisher, K. Ford, R. Garan

- Florida State (2)

*Former:* W. Scott, N. Thagard

- Atlantic (1)

*Former:* S. Swanson

- University of Central Florida (2)

*Former:* N. Stott

*Deceased:* F. Caldeiro

- University of Miami (1)

*Former:* D. Barry

University of North Florida (1)

*Candidate:* L. Delaney

## GEORGIA

- Georgia Institute of Technology (14)

*Active:* E. Boe, R.S. Kimbrough, D. Wheelock

*Former:* M. Clifford, J. Davis, B. Hammond, S. Horowitz, T. Kopra, S. Magnus, W.

McArthur, S. Still-Kilrain, R. Truly

*Deceased:* A. Poindexter, J. Young

- Emory (1)

*Deceased:* M. Carter

## IOWA

- Cornell (1)

*Former:* D. Hilmers

- Iowa State (1)

*Former:* C. Anderson

- Wesleyan (1)

*Former:* 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, J. Tanner*  
*Deceased: D. Gardner, S. Nagel*
- Northwestern (2)  
*Active: M. Barratt*  
*Former: J. Kerwin*
- Southern Illinois University (1)  
*Former: J. Higginbotham*
- University of Chicago (1)  
*Former: J. Grunsfeld*

## INDIANA

- Purdue University (21)  
*Active: A. Feustel, L. O'Hara, S. Tingle*  
*Former: J. Blaha, R. Bridges, M. Brown, J. Casper, R. Covey, G. Gardner, G. Harbaugh, M. McCulley, M. Polansky, J. Ross, L. Shriver, M. Weber, D. Wolf*  
*Deceased: N. Armstrong, E. Cernan, R. Chaffee, V. Grissom, D. Williams*
- Notre Dame (3)  
*Management: M. Good*  
*Former: K. Ford, J. Wetherbee*
- DePauw University (1)  
*Former: J. Allen*
- Indiana University (1)  
*Former: D. Wolf*

## KANSAS

- United States Army Command and General Staff College (1)  
*Active: R. Chari*
- University of Kansas (4)  
*Active: L. O'Hara*  
*Former: J. Engle, S. Hawley*  
*Deceased: R. Evans*

## KENTUCKY

- University of Kentucky (1)  
*Former: S. Musgrave*
- Western Kentucky University (1)  
*Management: T. Wilcutt*

## LOUISIANA

- Tulane University (1)  
*Former: D. Hurley*

## MARYLAND

- United States Naval Academy (55)  
*Active:* K. Barron, S. Bowen, C. Cassidy, R.T. Hines, N. A. Mann, S. Williams  
*Management:* K. Bowersox, R. Cabana  
*Former:* W. Anders, C. Bolden, J. Buchli, D. Bursch, M. Coats, J. Creighton, F. Culbertson, R. Curbeam, C. Duke, J. Edwards, M. Foreman, S. Frick, D. Gorie, K. Ham, K. Hire, C. Hobaugh, B. Jett, W. Lawrence, D. Leestma, J. Linenger, M. Lopez-Alegria, C. Loria, J. Lovell, L. Nowak, B. O'Connor, S. Oswald, J. Phillips, W. Readdy, K. Reightler, W. Shepherd, R. Springer, T. Stafford, P. Thuot, G. Zamka  
*Deceased:* D. Eisele, T. Freeman, E. Givens, D. Griggs, J. Irwin, M. Lounge, B. McCandless, W. McCool, W. Schirra, A. Shepard, M. Smith, S. Thorne, D. Walker  
*Candidate:* J. Hathaway
- United States Naval Test Pilot School (6)  
*Active:* R. Chari, M. Dominick, J. Moghbeli  
*Candidate:* M. Berrios, L. Delaney, J. Wittner
- University of Maryland (5)  
*Active:* J. Epps  
*Management:* R. Arnold, P. Richards,  
*Deceased:* W. McCool, J. Resnik
- Johns Hopkins (2)  
*Active:* G. R. Wiseman  
*Candidate:* A. Douglas
- Frostburg State University (1)  
*Management:* R. Arnold
- Loyola University (1)  
*Management:* T.J. Creamer
- Uniformed Services University of the Health Sciences (2)  
*Active:* A. Morgan, F. Rubio

## MASSACHUSETTS

- Massachusetts Institute of Technology (41)  
*Active:* S. Bowen, R. Chari, M. Fincke, T. N. Hague, W. Hoburg, J. Moghbeli  
*Management:* T.J. Creamer  
*Former:* E. Aldrin, D. Antonelli, J. Apt, K. Cameron, C. Cassidy, G. Chamitoff, F. Chang-Diaz, C. Coleman, C. Duke, A. England, J. Fischer, J. Grunsfeld, T. Hart, F. Hauck, W. Lawrence, M. Lee, M. Massimino, P. Melroy, N. Patrick, R. Satcher, R. Schweickart, D. Scott, W. Shepherd, H. Stefanyshyn-Piper, D. Tani, N. Woodward  
*Deceased:* P. Chapman, W. Lenoir, R. McNair, E. Mitchell, J.E. Voss  
*Candidate:* G. Berrios, C. Birch, C. Williams
- Harvard University (7)  
*Active:* J. Kim, S. Wilson  
*Management:* R. Linnehan  
*Former:* J. Hoffman, R. Satcher, H. Schmitt  
*Candidate:* A. Menon  
Harvard Medical School (1)  
*Candidate:* C. Williams
- Amherst (2)  
*Former:* J. Hoffman, R. Parker

- University of Massachusetts (1)  
*Former:* 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
- Boston University (1)  
*Active:* R.T. Hines

## **MICHIGAN**

- University of Michigan (8)  
*Former:* J. Lousma, J. McDivitt  
*Deceased:* T. Freeman, K. Henize, J. Irwin, E. White, A. Worden  
*Candidate:* A. Douglas
- Albion College (1)  
*Active:* J. Cassada
- Oakland Community College (1)  
*Active:* Andrew Feustel

## **MINNESOTA**

- University of Minnesota (3)  
*Active:* K. Lindgren  
*Former:* D. Carey  
*Deceased:* D. Slayton
- St. John's University (1)  
*Active:* M. Vande Hei

## **MISSOURI**

- Missouri University of Science and Technology (3)  
*Former:* T. Akers, J. Kavandi, S. Magnus
- University of Missouri-Columbia (2)  
*Former:* L. Godwin  
*Deceased:* R. Richards
- Webster-Missouri (2)  
*Former:* E. Collins, S. Gutierrez
- Missouri Southern State University (1)  
*Former:* 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)  
*Former: 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*  
*Deceased: G. Carr, C. Conrad*
- Rutgers (2)  
*Former: T. Hart, M. Runco*

## NEW YORK

- United States Military Academy (21)  
*Active: R.S. Kimbrough, A. McClain, A. Morgan, F. Rubio, D. Wheelock,*  
*Management: P. Forrester*  
*Former: J. Adamson, E. Aldrin, F. Borman, M. Clifford, C. Gemar, T. Kopra, W. McArthur, R. Mullane, D. Scott, S. Spring, J. Williams*  
*Deceased: M. Collins, D. Peterson, E. White, A. Worden*
- Columbia University (6)  
*Former: K. Chilton, W. Gregory, G.H. Johnson, M. Massimino, S. Musgrave*  
*Management: K. Bowersox*
- Cornell University (6)  
*Former: E. Baker, D. Barry, M. Jemison, E. Lu, D. Thomas*  
*Deceased: D. Low*
- Rensselaer Polytechnic (3)  
*Active: G. R. Wiseman*  
*Deceased: R. Mastracchio, J. Swigert*
- Merchant Marine Academy (2)  
*Former: M. Kelly*

*Deceased:* E. See

- State University of New York (2)  
*Former:* E. Baker, R. Garan
- Syracuse (2)  
*Former:* E. Collins, S. Musgrave
- City College (1)  
*Former:* M. Runco
- LeMoyne College (1)  
*Active:* J. Epps
- New York University (1)  
*Management:* L. Morin
- Polytechnic Institute of Brooklyn (1)  
*Management:* C. Camarda
- Rochester (2)  
*Active:* J. Cassada  
*Former:* E. Gibson
- NY State-Farmingdale (1)  
*Deceased:* F. Caldeiro
- NY State-Maritime (1)  
*Former:* S. Kelly

#### **NORTH CAROLINA**

- University of North Carolina (4)  
*Active:* Z. Cardman  
*Former:* J. Linenger  
*Deceased:* C. Brady, W. Thornton
- Davidson College (1)  
*Active:* T. Marshburn
- Duke University (1)  
*Deceased:* C. Brady
- Wake Forest (1)  
*Active:* T. Marshburn
- Agricultural & Technical State (1)  
*Deceased:* R. McNair
- North Carolina State University (1)  
*Active:* C. Koch

#### **NORTH DAKOTA**

- University of North Dakota (1)  
*Former:* K. Nyberg

#### **OHIO**

- Air Force Institute of Technology (12)  
*Former:* W. Anders, G. Bluford, M. Brown, J. Fabian, K. Ford, M. Fossum, J. Halsell, S. Lindsey, M. Mullane  
*Deceased:* G. Cooper, D. Eisele, D. Peterson
- United States Air Force Test Pilot School (2)

Active: B. Hines

- The Ohio State University (3)

*Management:* R. Linnehan

*Former:* N. Currie, R. Sega

- Baldwin-Wallace (1)

*Deceased:* R. Overmyer

- Case Western (1)

*Former:* D. Thomas

- Kent State (1)

*Former:* C. Walz

- Marietta (1)

*Former:* S. Musgrave

- Muskingum (1)

*Deceased:* J. Glenn

- Wright State (1)

*Active:* M. Barratt

## **OKLAHOMA**

- University of Oklahoma (3)

*Former:* F. Haise, S. Lucid

*Deceased:* O. Garriott

- Oklahoma Baptist (1)

*Deceased:* W. Pogue

- Oklahoma City (1)

*Deceased:* G. Cooper

- Oklahoma State (1)

*Deceased:* W. Pogue

## **OREGON**

- Oregon State (2)

*Active:* D. Pettit

*Former:* W. Oefelein

## **PENNSYLVANIA**

- Drexel University (3)

*Management:* P. Richards

*Former:* J. Bagian, C. Ferguson

- University of Pennsylvania (2)

*Management:* M. Gernhardt

*Former:* G. Reisman

- Indiana University of Pennsylvania (1)

*Deceased:* P. Robertson

- Carnegie-Mellon (2)

*Deceased:* E. Mitchell, J. Resnik

- The Pennsylvania State University (2)

*Former:* G. Bluford

*Deceased:* 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 (2)  
*Former:* J. Williams  
*Candidate:* J. Hathaway, J, Wittner
- Brown University (2)  
*Active:* J. Meir  
*Former:* B. Lichtenberg

## **SOUTH CAROLINA**

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

## **TENNESSEE**

- University of Tennessee-Knoxville (7)  
*Active:* B. Wilmore, R. Bresnik  
*Former:* J. Ashby, J. Edwards, D. Gorie, S. Kelly, M. Seddon  
*Deceased:* H. Hartsfield
- Tennessee Technical University (1)  
*Active:* B. Wilmore
- Vanderbilt (1)  
*Management:* M. Gernhardt
- Tennessee Space Institute (1)  
*Former:* W. Oefelein

## **TEXAS**

- University Of Houston (7)  
*Former:* N. Currie, B. Dunbar, B. Harris, D. Holmquest, S. Musgrave, J.D. Olivas, R. Walheim
- University of Texas (13)  
*Active:* S. Auñón-Chancellor, S. Wilson  
*Former:* M. Baker, K. Cockrell, R. Crippen, G.H. Johnson, P. Lockhart, C. Meade, K. Nyberg, N. Thagard, N. Woodward  
*Deceased:* A. Bean, K. Chawla
- University of Texas-Health Science Center  
*Management:* S. Auñón-Chancellor
- Rice University (8)  
*Active:* S. Walker  
*Former:* J. Hoffman, T. Jernigan, J. Newman, D. Olivas, P. Whitson  
*Deceased:* J. Bull



*Candidate:* N. Ayers

- University of Houston-Clear Lake (7)

*Active:* M. Fincke

*Former:* G. Bluford, G. Chamitoff, M. Fossum, G. Harbaugh, R. Mastracchio

*Deceased:* B. McCandless

- Texas Tech (4)

*Former:* B. Harris, P. Lockhart

*Deceased:* C. Bassett, R. Husband

- Texas A&M (2)

*Former:* M. Fossum, S. Swanson

- University of Texas-Arlington (1)

*Former:* R. Stewart

- University of Texas-Medical Branch (3)

*Active:* K. Lindgren, T. Marshburn

*Candidate:* A. Menon

- 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)

*Deceased:* D. Graveline

## VIRGINIA

- University of Virginia (6)

*Active:* T. Marshburn

*Management:* P. Forrester

*Former:* L. Melvin, K. Thornton, J. Wisoff

*Deceased:* K. Henize

- East Virginia Medical (1)

*Deceased:* D. Brown

- Old Dominion (1)

*Former:* M. Bloomfield

- Virginia Polytechnic Institute (1)

*Management:* C. Camarda

- William & Mary (1)

*Deceased:* D. Brown

- University of Richmond (1)

*Former:* L. Melvin

- Washington & Lee (1)

*Deceased:* D. Low

## **WASHINGTON**

- University of Washington (12)

*Active:* M. Barratt

*Management:* Y. Cagle, S. Love

*Former:* D. Antonelli, B. Dunbar, J. Dutton, J. Fabian, G.C. Johnson, J. Kavandi, G. Nelson

*Deceased:* M. Anderson, R. Gordon

- Washington State (1)

*Former:* J. Fabian

- Whitman College (1)

*Former:* D. Metcalf-Lindenburger

## **WISCONSIN**

- University of Wisconsin-Madison (2)

*Former:* B. Shaw

*Deceased:* L. Clark

- University of Wisconsin-River Falls (1)

*Former:* D. Brandenstein

## **6.0 NASA ASTRONAUTS BORN IN OTHER COUNTRIES**

**ARGENTINA:** F. Caldeiro

**AUSTRALIA:** P. Chapman, P. Scully-Power, A. Thomas

**BRAZIL:** M. Pontes

**CANADA:** G. Chamitoff, C. Hadfield, J. Hansen, J. Payette, D. Saint-Jacques, R. Thirsk, D. R. Williams

**CHINA:** W. Anders, S. Lucid, T. Wang

**COSTA RICA:** F. Chang-Diaz

**DENMARK:** A. Mogensen

**ENGLAND:** M. Foale, G.H. Johnson, N. Patrick, T. Peake, P. Sellers

**FRANCE:** L. Eyharts, T. Pesquet

**GERMANY:** A. Gerst, H. Schlegel, S. Thorne, J. Moghbeli

**INDIA:** K. Chawla

**ITALY:** M. Collins, P.

**NETHERLANDS:** L. Van Den Berg

**PACIFIC ISLANDS:** J. Newman

**PERU:** C. Noriega

**SPAIN:** M. Lopez-Alegria

**SWITZERLAND:** C. Nicollier

**SWEDEN:** C. Fuglesang

**TAIWAN:** K. Lindgren

**TURKEY:** D. Burnham

**VIETNAM:** E. Trinh

**WALES:** J. Llewellyn

## **7.0 ASTRONAUTS' SCOUTING RECORDS**

### **EAGLE:**

*Astronaut Candidate:* J. Hathaway, C. Williams

*Active:* R. Chari, K. Lindgren, D. Pettit

*Management:* P. Forrester

*Former:* J. Adamson, J. Bagian, G. Bluford, K. Bowersox, C. Brady, G. Chamitoff, R. Covey, J. Creighton, C. Duke, M. Fossum, W. Gregory, J. Hoffman, G.H. Johnson, T. Jones, M. Lee, D. Lind, S. Lindsey, J. Lovell, M. McCulley, B. O'Leary, S. Oswald, S. Parazynski, K. Reightler, J. Tanner, R. Truly

*Deceased:* N. Armstrong, G. Carr, M. Carter, R. Chaffee, D. Eisele, G.H. Fullerton, S.D. Griggs, J. Llewellyn (King's Scout, U.K.), W. McCool, E. Onizuka, R. Searfoss, E. See, D. Walker

### **GIRL SCOUT:**

*Active:* K. Barron, C. Koch, N. Mann, M. McArthur, J. Meir, L. O'Hara, K. Rubins, J. Watkins, S. Williams

*Management:* S. Auñón-Chancellor, Y. Cagle

*Former:* E. Collins, N. Currie-Gregg, J. Davis, A. Fisher, S. Helms, J. Higginbotham, K. Hire, T. Jernigan, S. Kilrain (Still), W. Lawrence, S. Magnus, D. Metcalf-Lindenburger, B. Morgan, L. Nowak, H. Stefanyshyn-Piper, M.R. Seddon, K. Sullivan, K. Thornton, M. Weber

*Deceased:* L. Clark, J.E. Voss

## 8.0 MILITARY ASTRONAUTS

### 8.1 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. (Bru)	Former	Colonel	USAF Retired
Ayers, Nichole	Candidate	Major	USAF
Bassett, Charles A.	Deceased	Captain	USAF
Behnken, Robert L.	Former	Lt. Colonel	USAF
Berrios, Marcos G.	Candidate	Major	USAF
Blaha, John E.	Former	Colonel	USAF Retired
Bloomfield, Michael J.	Former	Colonel	USAF Retired
Bluford, Guion S. (Guy)	Former	Colonel	USAF Retired
Bobko, Karol J. (Bo)	Former	Colonel	USAF Retired
Boe, Eric A.	Active	Colonel	USAF Retired
Borman, Frank	Former	Colonel	USAF Retired
Bridges, Roy D.	Former	Major General	USAF Retired
Brown, Curtis L., Jr.	Former	Colonel	USAF Retired
Brown, Mark N.	Former	Colonel	USAF Retired
Cagle, Yvonne D.	Management	Colonel	USAF Retired
Carey, Duane G.	Former	Lt. Colonel	USAF Retired
Casper, John H.	Former	Colonel	USAF Retired
Chari, Raja	Active	Colonel	USAF
Chilton, Kevin P.	Former	General	USAF Retired
Coleman, Catherine G.	Former	Colonel	USAF Retired
Collins, Eileen M.	Former	Colonel	USAF Retired
Cooper, L. Gordon	Deceased	Colonel	USAF Retired
Covey, Richard O. (Dick)	Former	Colonel	USAF Retired
Drew, B. Alvin (Al)	Management	Colonel	USAF Retired
Duffy, Brian	Former	Colonel	USAF Retired
Duke, Charles M., Jr.	Former	Brig. General	USAF Retired
Dutton, James P. (Jim)	Former	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, E. Michael (Mike)	Active	Colonel	USAF Retired
Fischer, Jack D.	Former	Lt. Colonel	USAF
Ford, Kevin A.	Former	Colonel	USAF Retired
Freeman, Theodore C.	Deceased	Captain	USAF
Fullerton, C. Gordon	Deceased	Colonel	USAF Retired
Garan, Ronald J. (Ron)	Former	Colonel	USAF Retired
Gardner, Guy S.	Former	Colonel	USAF Retired
Givens, Edward G.	Deceased	Major General	USAF
Good, Michael T.	Former	Colonel	USAF Retired

Grabe, Ronald J. (Ron)	Former	Colonel	USAF Retired
Gregory, Frederick D.	Former	Colonel	USAF Retired
Gregory, William G. (Bill)	Former	Lt. Colonel	USAF Retired
Grissom, Virgil I. (Gus)	Deceased	Lt. Colonel	USAF
Gutierrez, Sidney M.	Former	Colonel	USAF Retired
Halsell, James D. (Jim)	Former	Colonel	USAF Retired
Hammond, L. Blaine	Former	Colonel	USAF Retired
Hartsfield, Henry W.	Deceased	Colonel	USAF Retired
Helms, Susan J.	Former	Lt. General	USAF
Hendricks, Terence T.	Former	Colonel	USAF Retired
Hines, Robert "Bob" T.	Active	Lt. Colonel	USAF
Horowitz, Scott J. (Doc)	Former	Colonel	USAF Retired
Husband, Rick D.	Deceased	Colonel	USAF
Irwin, James B.	Deceased	Colonel	USAF Retired
Johnson, Greg H. (Box)	Former	Colonel	USAF Retired
Kelly, James M. (Jim)	Management	Colonel	USAF Retired
Lee, Mark C.	Former	Colonel	USAF Retired
Lindsey, Steven W.	Former	Colonel	USAF Retired
Lockhart, Paul S.	Former	Colonel	USAF Retired
McDivitt, James A. (Jim)	Deceased	Brig. General	USAF Retired
McMonagle, Donald R.	Former	Colonel	USAF Retired
Meade, Carl J.	Former	Colonel	USAF Retired
Melroy, Pamela A. (Pam)	Management	Colonel	USAF Retired
Menon, Anil	Candidate	Lt. Colonel	USAF
Mullane, Richard M.	Former	Colonel	USAF Retired
Nagel, Steven R.	Deceased	Colonel	USAF Retired
Onizuka, Ellison S.	Deceased	Lt. Colonel	USAF
Peterson, Donald H.	Deceased	Colonel	USAF Retired
Pogue, William R. (Bill)	Deceased	Colonel	USAF Retired
Precourt, Charles J.	Former	Colonel	USAF Retired
Roosa, Stuart A.	Deceased	Colonel	USAF Retired
Ross, Jerry L.	Former	Colonel	USAF Retired
Scobee, Francis R. (Dick)	Deceased	Major General	USAF Retired
Scott, David R.	Former	Colonel	USAF Retired
Searfoss, Richard A.	Deceased	Colonel	USAF Retired
Shaw, Brewster H.	Former	Colonel	USAF Retired
Shriver, Loren J.	Former	Colonel	USAF Retired
Stafford, Thomas P	Former	Lt. General	USAF Retired
Virts, Terry W.	Former	Colonel	USAF
Walheim, Rex J.	Former	Colonel	USAF Retired
Walz, Carl E.	Former	Colonel	USAF Retired
White, Edward H. (Ed)	Deceased	Lt. Colonel	USAF
Worden, Alfred M. (Al)	Deceased	Colonel	USAF Retired

## 8.2 UNITED STATES ARMY

Adamson, James C.	Former	Colonel	USA Retired
Clifford, Michael R. (Rich)	Former	Lt. Colonel	USA Retired
Creamer, Timothy J. (TJ)	Management	Colonel	USA Retired
Currie (Sherlock), Nancy	Former	Colonel	USA Retired
Forrester, Patrick (Pat)	Management	Colonel	USA Retired
Gemar, Charles (Sam)	Former	Lt. Colonel	USA Retired
Kimbrough, Robert S. (Shane)	Former	Colonel	USA Retired
Kopra, Timothy L. (Tim)	Former	Colonel	USA Retired
McArthur, William S. (Bill)	Former	Colonel	USA Retired
McClain, Anne C.	Active	Lt. Colonel	USA
Morgan, Andrew R.	Active	Colonel	USA
Rubio, Francisco "Frank"	Active	Major	USA
Spring, Sherwood C. (Woody)	Former	Colonel	USA Retired
Stewart, Robert L.	Former	Brig. General	USA Retired
Vande Hei, Mark T.	Active	Colonel	USA Retired
Voss, James S. (Jim)	Former	Colonel	USA Retired
Wheelock, Douglas H. (Doug)	Active	Colonel	USA Retired
Williams, Jeffrey N. (Jeff)	Management	Colonel	USA Retired

## 8.3 UNITED STATES COAST GUARD

Burbank, Daniel C. (Dan)	Former	Captain	USCG Retired
Melnick, Bruce E.	Former	Commander	USCG Retired
Douglas, Andre	Candidate		USCG

## 8.4 UNITED STATES MARINE CORPS

Allen, Andrew M.	Former	Lt. Colonel	USMC Retired
Bolden, Charles F.	Former	Major General	USMC Retired
Brand, Vance D.	Former	Commander	USMC Retired
Bresnik, Randolph J.	Active	Colonel	USMC Retired
Buchli, James F. (Jim)	Former	Colonel	USMC Retired
Cabana, Robert D. (Bob)	Management	Colonel	USMC Retired
Cameron, Kenneth D.	Former	Colonel	USMC Retired
Carr, Gerald P. (Gerry)	Deceased	Colonel	USMC Retired
Cunningham, Walter (Walt)	Deceased	Colonel	USMC Reserve Retired

Delaney, Luke	Candidate	Major	USMC Retired
Glenn, John H.	Deceased	Colonel	USMC Retired
Hilmers, David C.	Former	Colonel	USMC Retired
Hobaugh, Charles O.	Former	Colonel	USMC Retired
Hurley, Douglas G.	Former	Colonel	USMC Retired
Loria, Christopher J.	Former	Colonel	USMC Retired
Lousma, Jack R.	Former	Colonel	USMC Retired
Mann, Nicole Anuapu	Active	Colonel	USMC
Moghbeli, Jasmin	Active	Lt. Colonel	USMC
Noriega, Carlos I.	Former	Lt. Colonel	USMC Retired
O'Connor, Bryan D.	Former	Colonel	USMC Retired
Overmyer, Robert F.	Deceased	Colonel	USMC Retired
Springer, Robert C. (Bob)	Former	Colonel	USMC Retired
Sturckow, Frederick J.	Former	Colonel	USMC Retired
Wilcutt, Terrence W.	Management	Colonel	USMC Retired
Williams, Clifford C.	Deceased	Major	USMC
Zamka, George D.	Former	Colonel	USMC Retired

## 8.5 UNITED STATES NAVY

Altman, Scott D.	Former	Captain	USN Retired
Antonelli, Dominic A.	Former	Captain	USN Retired
Ashby, Jeffrey S. (Jeff)	Former	Captain	USN Retired
Baker, Michael A.	Former	Captain	USN Retired
Barron, Kayla	Active	Lt. Commander	USN
Bean, Alan L. (Al)	Deceased	Captain	USN Retired
Bowen, Stephen G.	Active	Captain	USN Retired
Bowersox, Kenneth D.	Management	Captain	USN Retired
Brady, Charles E.	Deceased	Captain	USN Retired
Brandenstein, Daniel D.	Former	Captain	USN Retired
Brown, David M. (Dave)	Deceased	Captain	USN Retired
Burnham, Deniz	Candidate	Lieutenant	USN
Bursch, Daniel W. (Dan)	Former	Captain	USN Retired
Carpenter, M. Scott	Deceased	Commander	USN Retired
Carter, Manley L. (Sonny)	Deceased	Captain	USN
Cassada, John A.	Active	Lt. Commander	USN
Cassidy, Christopher J.	Former	Captain	USN
Cernan, Eugene A.	Deceased	Captain	USN Retired
Chaffee, Roger B.	Deceased	Lt. Commander	USN
Clark, Laurel B.	Deceased	Captain	USN
Coats, Michael L.	Former	Captain	USN Retired
Cockrell, Kenneth D. (Ken)	Former	Captain	USN
Conrad, Charles, Jr.	Deceased	Captain	USN
Creighton, John O.	Former	Captain	USN Retired
Crippen, Robert L. (Crip)	Former	Captain	USN Retired



Curbeam, Robert L.	Former	Captain	USN Retired
Culbertson, Frank L.	Former	Captain	USN Retired
Dominick, Matthew	Active	Commander	USN
Edwards, Joe F., Jr.	Former	Commander	USN Retired
Evans, Ronald E.	Deceased	Captain	USN Retired
Ferguson, Christopher J.	Former	Captain	USN Retired
Foreman, Michael (Mike)	Former	Captain	USN Retired
Frick, Stephen N. (Steve)	Former	Captain	USN Retired
Gardner, Dale A.	Deceased	Captain	USN Retired
Gibson, Robert L. (Hoot)	Former	Captain	USN Retired
Glover, Victor J.	Active	Captain	USN
Gordon, Richard F., Jr.	Deceased	Captain	USN Retired
Gorie, Dominic L. (Dom)	Former	Captain	USN Retired
Ham, Kenneth T. (Ken)	Former	Captain	USN
Hathaway, Jack	Candidate	Commander	USN
Hauck, Frederick H. (Rick)	Former	Captain	USN Retired
Herrington, John B.	Former	Commander	USN Retired
Hire, Kathryn P. (Kay)	Former	Captain	USN
Jett, Brent W.	Former	Captain	USN Retired
Johnson, Gregory C.	Former	Captain	USN Retired
Kelly, Mark E.	Former	Captain	USN Retired
Kelly, Scott J.	Former	Captain	USN Retired
Kerwin, Joseph P. (Joe)	Former	Captain	USN Retired
Kilrain (Still), Susan L.	Former	Commander	USN Retired
Kim, Jonny	Active	Lt. Commander	USN
Lawrence, Wendy B.	Former	Captain	USN Retired
Leestma, David C.	Former	Captain	USN Retired
Linenger, Jerry M.	Former	Captain	USN Retired
Lopez-Alegria, Michael E.	Former	Captain	USN Retired
Lovell, James A. (Jim)	Former	Captain	USN Retired
Mattingly, Thomas K. (TK)	Former	Rear Admiral	USN Retired
McBride, Jon A.	Former	Captain	USN Retired
McCandless, Bruce	Deceased	Captain	USN Retired
McCool, William C. (Willie)	Deceased	Commander	USN
McCulley, Michael J.	Former	Captain	USN Retired
Mitchell, Edger D.	Deceased	Captain	USN Retired
Morin, Lee M.	Management	Captain	USN Retired
Nowak, Lisa M.	Former	Commander	USN Retired
Oefelein, William A.	Former	Commander	USN Retired
Phillips, John L.	Former	Captain	USN
Poindexter, Alan G. (Dex)	Deceased	Commander	USN
Readdy, William F. (Bill)	Former	Captain	USN Retired
Reightler, Kenneth S.	Former	Captain	USN Retired
Richards, Richard N.	Former	Captain	USN Retired
Rominger, Kent V.	Former	Captain	USN Retired

Runco, Mario, Jr.	Former	Lt. Commander	USN Retired
Schirra, Walter M. (Wally)	Deceased	Captain	USN Retired
Scott, Winston E.	Former	Captain	USN Retired
Shepard, Alan B. (Al)	Deceased	Rear Admiral	USN Retired
Shepherd, William M. (Bill)	Former	Captain	USN Retired
Smith, Michael J.	Deceased	Captain	USN
Stefanyshyn-Piper, Heidmarie	Former	Captain	USN
Thorne, Stephen D.	Deceased	Lt. Commander	USN
Thuot, Pierre J.	Former	Commander	USN
Tingle, Scott D.	Active	Captain	USN
Truly, Richard H. (Dick)	Former	Vice Admiral	USN Retired
Walker, David M.	Deceased	Captain	USN Retired
Weitz, Paul J.	Deceased	Captain	USN Retired
Wetherbee, James D.	Former	Captain	USN Retired
Williams, Donald E.	Deceased	Captain	USN Retired
Williams, Sunita L. (Suni)	Active	Captain	USN Retired
Wilmore, Barry E. (Butch)	Active	Captain	USN
Wiseman, G. Reid	Active	Lt. Commander	USN Retired
Wittner, Jessica A.	Candidate	Lt. Commander	USN
Woodward, Neil W.	Former	Commander	USN Retired
Young, John W.	Deceased	Captain	USN Retired

## 8.6 UNITED STATES SPACE FORCE

Hague, Tyler N.	Active	Colonel	USSF
Hopkins, Michael S	Active	Colonel	USSF

## 9.0 U.S. SPACE PROGRAM HUMAN SPACE FLIGHT LOG

### 9.1 PRE-SHUTTLE SPACE FLIGHT

#### MERCURY-REDSTONE

Mercury 3	Shepard, Alan B.	May 5, 1961	15 min – 28 sec
Mercury 4	Grissom, Virgil I.	July 21, 1961	15 min – 37 sec
Mercury 6	Glenn, John H.	Feb. 20, 1962	4 hr – 55 min – 23 sec
Mercury 7	Carpenter, Scott M.	May 24, 1962	4 hr – 56 min – 05 sec
Mercury 8	Schirra, Walter M.	Oct. 3, 1962	9 hr – 13 min – 11 sec
Mercury 9	Cooper, L. Gordon	May 5-15, 1963	34 hr – 19 min – 49 sec

#### GEMINI-TITAN

Gemini III	Grissom, Virgil I. Young, John W.	March 23, 1965	4 hr – 52 min – 31 sec
Gemini IV	McDivitt, James A. White, Edward H.	June 3-7, 1965	97 hr – 56 min – 12 sec
Gemini V 14 sec	Cooper, L. Gordon Conrad, Charles	Aug. 21-29, 1965	190 hr – 55 min –
Gemini VII sec	Borman, Frank Lovell, James A.	Dec. 4-18, 1965	330 hr – 35 min – 01
Gemini VI-A sec	Schirra, Walter M. Stafford, Thomas P.	Dec. 15-16, 1965	25 hr – 51 min – 24
Gemini VIII	Armstrong, Neil A. Scott, David R.	March 16, 1966	10 hr – 41 min – 26 sec
Gemini IX-A	Stafford, Thomas P. Cernan, Eugene A.	June 3-6, 1966	72 hr – 20 min – 50 sec
Gemini X	Young, John W. Collins, Michael	July 18-21, 1966	70 hr – 46 min – 39 sec
Gemini XI	Conrad, Charles		

	Gordon, Richard F.	Sept. 12-15, 1966	71 hr – 17 min – 08 sec
Gemini XII sec	Lovell, James A. Aldrin, Buzz	Nov. 11-15, 1966	94 hr – 34 min – 31

### APOLLO-SATURN

Apollo 7 sec	Schirra, Walter M. Eisele, Donn F. Cunningham Walter	Oct. 11-22, 1968	260 hr – 09 min – 03
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Apollo 8 42 sec	Borman, Frank Lovell, James A. Anders, William A.	Dec. 21-27, 1968	147 hr – 00 min –
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Apollo 9 54 sec	McDivitt, James A. Scott, David R. Schweickart, Russell L.	March 3-13, 1969	241 hr – 00 min –
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Apollo 10 sec	Stafford, Thomas P. Young, John W. Cernan, Eugene A.	May 18-26, 1969	192 hr – 23 min – 23
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Apollo 11 sec	Armstrong, Neil A. Collins, Michael Aldrin, Buzz	July 16-24, 1969	195 hr – 18 min – 35
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Apollo 12 24 sec	Conrad, Charles Gordon, Richard F. Bean, Alan L.	Nov. 14-24, 1969	244 hr – 36 min –
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Apollo 13 41 sec	Lovell, James A. Swigert, John L. Haise, Fred W.	April 11-17, 1970	142 hr – 54 min –
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Apollo 14 sec	Shepard, Alan B. Roosa, Stuart A. Mitchell, Edgar D.	Jan. 31 – Feb.9, 1971	216 hr – 01 min – 58
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Apollo 15	Scott, David R.
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53 sec	Worden, Alfred M. Irwin, James B.	July 26 – Aug. 7, 1971	305 hr – 11 min –
Apollo 16	Young, John W. Mattingly, Thomas K. Duke, Charles M.	April 16-27, 1972	265 hr – 51 min
– 05 sec			
Apollo 17	Cernan, Eugene A. Evans, Ronald E. Schmitt, Harrison H.	Dec. 7-19, 1972	301 hr – 51 min – 59
sec			

### SKYLAB

Skylab SL-2	Conrad, Charles Kerwin, Joseph P. Weitz, Paul J.	May 25 – June 22, 1973	672 hr – 49 min – 49
sec			
Skylab SL-3	Bean, Alan L. Garriott, Owen K. Lousma, Jack R.	July 28 – Sept. 25, 1973	1427 hr – 09 min – 04
sec			
Skylab SL-4	Carr, Gerald P. Gibson, Edward G. Pogue, William R.	Nov. 16, 1973 – Feb. 8, 1974	2017 hr – 16 min – 00
sec			

### APOLLO-SOYUZ TEST PROJECT (ASTP)

	Stafford, Thomas P. Brand, Vance D. Slayton, Donald K.	July 15-24, 1975	223 hours – 28 min –
sec			

## **9.1 SPACE SHUTTLE PROGRAM MISSIONS**

<b>Flight Vehicle</b>	<b>Crew - Designation (STS seat)</b>	<b>Duration Days/Hrs./Min Orbits Miles, sm</b>	<b>Date Launch Landing</b>	<b>Time Launch Landing (Main gear)</b>
<b>STS-1</b>	Young, John W. - CDR	02/06/20	Apr-12-81	06:00 a.m. CST
Columbia	Crippen, Robert L. - PLT	36	Apr-14-81	12:20 p.m. CST
		933,757	EAFB	
<b>STS-2</b>	Engle, Joe H. - CDR	02/06/13	Nov-12-81	09:10 a.m. CST
Columbia	Truly, Richard H. - PLT	36	Nov-14-81	03:23 p.m. CST
		933,757	EAFB	
<b>STS-3</b>	Lousma, Jack R. - CDR	08/00/04	Mar-22-82	10:00 a.m. CST
Columbia	Fullerton, Gordon - PLT	129	Mar-30-82	10:04 a.m. CST
		3,900,000	White Sands	Space Harbor, NM
<b>STS-4</b>	Mattingly, Thomas - CDR	07/01/11	Jun-27-82	09:59 a.m. CDT
Columbia	Hartsfield, Henry W. - PLT	112	Jul-04-82	11:11 a.m. CDT
		2,900,000	EAFB	
<b>STS-5</b>	Brand, Vance D. - CDR	5/02/14	Nov-11-82	06:19 a.m. CST
Columbia	Overmyer, Robert F. - PLT	81	Nov-16-82	08:33 a.m. CST
	Allen, Joseph P. - MS	1,850,000	EAFB	
	Lenoir, William B. - MS			
<b>STS-6</b>	Weitz, Paul J. - CDR	5/00/23	Apr-04-83	01:30 p.m. CST
Challenger	Bobko, Karol J. - PLT	80	Apr-09-83	01:53 p.m. CST
	Peterson, Donald H. - MS	1,820,000	EAFB	
	Musgrave, F. Story - MS			
<b>STS-7</b>	Crippen, Robert L. - CDR	06/02/23	Jun-18-83	06:33 a.m. CDT

Challenger	Hauck, Frederick H. - PLT	98	Jun-24-83	08:56 a.m. CDT
	Ride, Sally K. - MS	2,220,000	EAFB	
	Fabian, John M. - MS			
	Thagard, Norman E. - MS			
<b>STS-8</b>	Truly, Richard H. - CDR	6/01/08	Aug-30-83	01:32 a.m. CDT
Challenger	Brandenstein, Daniel C. - PLT	98	Sep-05-83	02:40 a.m. CDT
	Gardner, Dale A. - MS	2,220,000	EAFB	
	Bluford, Guion S. - MS			
	Thornton, William E. - MS			
	Parker, Robert A. - MS			
	Lichtenberg, Byron K. - PS			
	Merbold, Ulf - PS (Germany)			
<b>41-B</b>	Brand, Vance D. - CDR	7/23/15	Feb-03-84	07:00 a.m. CST
Challenger	Gibson, Robert L. - PLT	127	Feb-11-84	06:15 a.m. CST
	McCandless II, Bruce - MS	2,870,000	KSC	
	Stewart, Robert L. - MS			
	McNair, Ronald E. - MS			
<b>41-C</b>	Crippen, Robert L. - CDR	6/23/40	Apr-06-84	07:58 a.m. CST
Challenger	Scobee, Francis R. - PLT	107	Apr-13-84	07:38 a.m. CST
	Nelson, George D. - MS	2,880,000	EAFB	
	Van Hoften, James D. - MS			
	Hart, Terry J. - MS			
<b>41-D</b>	Hartsfield, Henry W. - CDR	06/00/56/4	Aug-30-84	07:41 a.m. CDT
Discovery	Coats, Michael L. - PLT	97	Sep-05-84	08:37 a.m. CDT



	Resnik, Judith A. - MS	2,210,000	EAFB	
	Hawley, Steven A. - MS			
	Mullane, Richard M. - MS			
	Walker, Charles D. - PS			
<b>41-G</b>	Crippen, Robert L. - CDR	08/05/23	Oct-05-84	06:03 a.m. CDT
Challenger	McBride, Jon A. - PLT	133	Oct-13-84	11:26 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			
<b>51-A</b>	Hauck, Frederick H. - CDR	07/23/44	Nov-08- 84	06:15 a.m. CST
Discovery	Walker, David M. - PLT	127	Nov-16- 84	05:59 a.m. CST
	Fisher, Anna L. - MS	2,870,000	KSC	
	Gardner, Dale A. - MS			
	Allen, Joseph P. - MS			
<b>51-C</b>	Mattingly, Thomas K. - CDR	3/01/33	Jan-24-85	01:50 p.m. CST
Discovery	Shriver, Loren J. - PLT	48	Jan-27-85	03:23 p.m. CST
	Onizuka, Ellison S. - MS	1,242,566	KSC	
	Buchli, James F. - MS			
	Payton, Gary E. - PS (DOD)			
<b>51-D</b>	Bobko, Karol J. - CDR	6/23/54	Apr-12-85	07:59 a.m. CST

Discovery	Williams, Donald E. - PLT	110	Apr-19-85	07:54 a.m. CST
	Seddon, M. Rhea - MS	2,889,785	KSC	
	Hoffman, Jeffrey A. - MS			
	Griggs, S. David - MS			
	Walker, Charles D. - PS			
	Garn, Jake - PS (U.S. Sen-UT)			
<b>51-B</b>	Overmyer, Robert F - CDR	7/00/08	Apr-29-85	11:02 a.m. CDT
<b>SL-3</b>	Gregory, William G. - PLT	110	May-06-85	11:11 a.m. CDT
Challenger	Lind, Don L. - MS	2,900,000	EAFB	
	Thagard, Norman E. - MS			
	Thornton, William E. - MS			
	van den Berg, Lodewijk - PS			
	Wang, Taylor G. - PS			
<b>51-G</b>	Brandenstein, Daniel C. - CDR	07/01/39	Jun-17-85	06:33 a.m. CDT
Discovery	Creighton, John O. - PLT	112	Jun-24-85	08:12 a.m. CDT
	Lucid, Shannon W. - MS	2,916,127	EAFB	
	Fabian, John M. - MS			
	Nagel, Steven R. - MS			
	Baudry, Patrick - PS (France)			
	Al-Saud, Sultan Salman Abdelazize - PS (Saudi Arabia)			
<b>51-F</b>	Fullerton, C. Gordon - CDR	07/22/45	Jul-29-85	04:00 p.m. CDT
SL-2	Bridges, Roy D. - PLT	126	Aug-06-85	02:45 p.m. CDT
Challenger	Musgrave, F. Story - MS	2,850,000	EAFB	
	England, Anthony W. - MS			

	Henize, Karl G. - MS			
	Acton, Loren W. - PS (Lockheed)			
	Bartoe, John-David - PS (US Navy Civ.)			
<b>51-I</b>	Engle, Joe H. - CDR	07/03/17	Aug-27-85	05:58 a.m. CDT
Discovery	Covey, Richard O. - PLT	111	Sep-03-85	08:15 a.m. CDT
	Van Hoften, James D. - MS	2,500,000	EAFB	
	Lounge, John M. - MS			
	Fisher, William F. - MS			
<b>51-J</b>	Bobko, Karol J. - CDR	04/01/44	Oct-03-85	10:15 a.m. CDT
Atlantis	Grabe, Ronald J. - PLT	65	Oct-07-85	12:00 p.m. CDT
	Hilmers, David C. - MS	1,682,641	EAFB	
	Stewart, Robert C. - MS			
	Pailes, William A. - PS (Maj., Air Force)			
<b>61-A</b>	Hartsfield, Henry W. - CDR	07/00/44	Oct-30-85	11:00 a.m. CST
Challenger	Nagel, Steven R. - PLT	110	Nov-06-85	11:44 a.m. CST
	Buchli, James F. - MS	2,501,290	EAFB	
	Bluford, Guion S. - MS			
	Dunbar, Bonnie J. - MS			
	Furrer, Reinhard - PS (DFVLR - Germany)			
	Messerschmid, Ernst - PS (DFVLR - Germany)			
	Ockels, Wubbo J. - PS (ESA - The Netherlands)			
<b>61-B</b>	Shaw, Brewster H. - CDR	06/21/04	Nov-26-85	06:29 p.m. CST
Atlantis	O'Connor, Bryan D. - PLT	108	Dec-03-85	03:33 p.m. CST

	Cleave, Mary L. - MS	2,466,956	EAFB	
	Spring, Sherwood C. - MS			
	Ross, Jerry L. - MS			
	Neri Vela, Rodolfo - PS (Mexico)			
	Walker, Charles D. - PS			
<b>61-C</b>	Gibson, Robert L. - CDR	06/02/03	Jan-12-86	05:55 a.m. CST
Columbia	Bolden, Charles F. - PLT	96	Jan-18-86	07:58 p.m. CST
	Chang-Diaz, Franklin R. - MS	2,197,305	EAFB	
	Hawley, Steven A. - MS			
	Nelson, George D. - MS			
	Kenner, Robert J. - PS (RCA Corp)			
	Nelson, Bill - PS (U.S. Rep-FL)			
<b>51-L</b>	Scobee, Francis R. - CDR	0/00/01	Jan-28-86	10:38 a.m. CST
Challenger	Smith, Michael J. - PLT			
	Resnik, Judith A. - MS			
	Onizuka, Ellison S. - MS			
	McNair, Ronald E. - MS			
	Jarvis, Gregory - PS (Hughes)			
	McAuliffe, Sharon C. – Space Flight Participant (Teacher)			
<b>STS-26</b>	Hauck, Frederick H. - CDR	04/01/00	Sep-29-88	10:37 a.m. CDT
Discovery	Covey, Richard O. - PLT	64	Oct-03-88	11:37 a.m. CDT
	Lounge, John M. - MS	1,430,505	EAFB	
	Nelson, George D. - MS			

	Hilmers, David C. - MS			
<b>STS-27</b>	Gibson, Robert L. - CDR	04/09/06	Dec-02-88	08:30 a.m. CST
Atlantis	Gardner, Guy S. - PLT	70	Dec-06-88	05:36 p.m. CST
	Mullane, Richard M. - MS	1,812,075	EAFB	
	Ross, Jerry L. - MS			
	Shepherd, William M. - MS			
<b>STS-29</b>	Coats, Michael L. - CDR	04/23/39	Mar-13-89	08:57 a.m. CST
Discovery	Blaha, John E. - PLT	80	Mar-18-89	08:36 a.m. CST
	Bagian, James P. - MS	1,800,000	EAFB	
	Buchli, James F. - MS			
	Springer, Robert C. - MS			
<b>STS-30</b>	Walker, David M. - CDR	04/00/56	May-04-89	01:46 p.m. CDT
Atlantis	Grabe, Ronald J. - PLT	64	May-08-89	02:44 p.m. CDT
	Thagard, Norman E. - MS	1,477,500	EAFB	
	Cleave, Mary L. - MS			
	Lee, Mark C. - MS			
<b>STS-28</b>	Shaw, Brewster H. - CDR	05/01/00	Aug-08-89	07:37 a.m. CDT
Columbia	Richards, Richard N. - PLT	80	Aug-13-89	08:37 a.m. CDT
	Adamson, James C. - MS	2,070,943	EAFB	
	Leestma, David C. - MS			
	Brown, Mark N. - MS			
<b>STS-34</b>	Williams, Donald E. - CDR	04/23/41	Oct-18-89	11:53 a.m. CDT

Atlantis	McCulley, Michael J. - PLT	79	Oct-23-89	11:34 a.m. CDT
	Chang-Diaz, Franklin R. - MS	1,800,000	EAFB	
	Lucid, Shannon W. - MS			
	Baker, Ellen S. - MS			
<b>STS-33</b>	Gregory, William G. - CDR	05/00/07	Nov-22-89	06:23 p.m. CST
Discovery	Blaaha, John E. - PLT	79	Nov-27-89	06:31 p.m. CST
	Musgrave, F. Story - MS	2,045,056	EAFB	
	Carter, Manley L. - MS			
	Thornton, Kathryn C. - MS			
<b>STS-32</b>	Brandenstein, Daniel C. - CDR	10/21/01	Jan-09-90	06:35 a.m. CST
Columbia	Wetherbee, James D. - PLT	173	Jan-20-90	03:36 a.m. CST
	Dunbar, Bonnie J. - MS	4,509,972	EAFB	
	Low, G. David - MS			
	Ivins, Marsha S. - MS			
<b>STS-36</b>	Creighton, John O. - CDR	04/10/19	Feb-28-90	01:50 a.m. CST
Atlantis	Casper, John H. - PLT	71	Mar-04-90	12:09 p.m. CST
	Mullane, Richard M. - MS	1,837,962	EAFB	
	Hilmers, David C. - MS			
	Thuot, Pierre J. - MS			
<b>STS-31</b>	Shriver, Loren J. - CDR	05/01/16	Apr-24-90	07:33 a.m. CDT
Discovery	Bolden, Charles F. - PLT	76	Apr-29-90	08:49 a.m. CDT
	Hawley, Steven A. - MS	2,068,213	EAFB	

	McCandless II, Bruce - MS			
	Sullivan, Kathryn D. - MS			
<b>STS-41</b>	Richards, Richard N. - CDR	04/02/10	Oct-06- 90	06:47 a.m. CDT
Discovery	Cabana, Robert D. - PLT	66	Oct-10- 90	08:57 a.m. CDT
	Shepherd, William M. - MS	1,707,445	EAFB	
	Melnick, Bruce E. - MS			
	Akers, Thomas D. - MS			
<b>STS-38</b>	Covey, Richard O. - CDR	04/21/54	Nov-15- 90	05:48 p.m. CST
Atlantis	Culbertson, Frank L. - PLT	79	Nov-20- 90	03:42 p.m. CST
	Springer, Robert C. - MS	2,045,056	KSC	
	Meade, Carl J. - MS			
	Gemar, Charles D. - MS			
<b>STS-35</b>	Brand, Vance D. - CDR	08/23/05	Dec-02- 90	12:49 a.m. CST
Columbia	Gardner, Guy S. - PLT	142	Dec-10- 90	11:54 p.m. CST
	Hoffman, Jeffrey A. - MS	3,728,636	EAFB	
	Lounge, John M. - MS			
	Parker, Robert Allan Ridley - MS			
	Durrance, Samuel T. - PS			
	Parise, Ronald A. - PS			
<b>STS-37</b>	Nagel, Steven R. - CDR	05/23/32	Apr-05- 91	08:22 a.m. CST
Atlantis	Cameron, Kenneth D. - PLT	93	Apr-11- 91	08:55 a.m. CDT
	Ross, Jerry L. - MS	2,487,075	EAFB	
	Apt, Jerome - MS			

	Godwin, Linda M. - MS			
<b>STS-39</b>	Coats, Michael L. - CDR	08/07/22	Apr-28-91	06:33 a.m. CDT
Discovery	Hammond, L. Blaine - PLT	134	May-06-91	01:55 p.m. CDT
	Bluford, Guion S. - MS	3,475,000	KSC	
	Harbaugh, Gregory J. - MS			
	Hieb, Richard J. - MS			
	McMonagle, Donald R. - MS			
	Veach, Charles Lacy - MS			
<b>STS-40</b>	O'Connor, Bryan D. - CDR	09/2/14	Jun-05-91	08:24 a.m. CDT
Columbia	Gutierrez, Sidney M. - PLT	146	Jun-14-91	10:39 a.m. CDT
	Seddon, M. Rhea - MS	3,290,226	EAFB	
	Bagian, James P. - MS			
	Jernigan, Tamara E. - MS			
	Gaffney, F. Drew - PS			
	Hughes-Fulford, Millie - PS			
<b>STS-43</b>	Blaha, John E. - CDR	08/21/21	Aug-02-91	10:02 a.m. CDT
Atlantis	Baker, Michael A. - PLT	142	Aug-11-91	07:23 a.m. CDT
	Lucid, Shannon W. - MS	3,700,400	KSC	
	Adamson, James C. - MS			
	Low, G. David - MS			
<b>STS-48</b>	Creighton, John O. - CDR	05/08/27	Sep-12-91	06:11 p.m. CDT
Discovery	Reightler, Kenneth S. - PLT	81	Sep-18-91	02:38 a.m. CDT



	Buchli, James F. – MS	2,193,670	EAFB	
	Gemar, Charles D. – MS			
	Brown, Mark N. – MS			
<b>STS-44</b>	Gregory, Frederick D. - CDR	06/22/50	Nov-24-91	05:44 p.m. CST
Atlantis	Henricks, Terence T. - PLT	110	Dec-01-91	04:34 p.m. CST
	Musgrave, F. Story – MS	2,890,067	EAFB	
	Runco, Jr., Mario – MS			
	Voss, James S. – MS			
	Hennen, Thomas J. - PS (CWO4, Army)			
<b>STS-42</b>	Grabe, Ronald J. – CDR	08/01/14	Jan-22-92	08:52 a.m. CST
Discovery	Oswald, Stephen S. - PLT	128	Jan-30-92	10:07 a.m. CST
	Thagard, Norman E. - MS	3,349,830	EAFB	
	Hilmers, David C. – MS			
	Readdy, William F. – MS			
	Bondar, Roberta L. - PS (Canada)			
	Merbold, Ulf D. - PS (Germany)			
<b>STS-45</b>	Bolden, Charles F. - CDR	08/22/09	Mar-24-92	07:13 a.m. CST
Atlantis	Duffy, Brian - PLT	143	Apr-02-92	05:23 a.m. CST
	Sullivan, Kathryn D. - MS (PYLD CDR)	3,274,946	KSC	
	Foale, C. Michael - MS			
	Leestma, David C. - MS			
	Lichtenberg, Byron K. - PS			
	Frimout, Dirk D. - PS (Belgium)			

<b>STS-49</b>	Brandenstein, Daniel C - CDR	08/21/17	May- 07-92	06:40 p.m. CDT
Endeavour	Chilton, Kevin P. - PLT	141	May- 16-92	03:57 p.m. CDT
	Thuot, Pierre J. – MS (PYLD CDR)	3,969,019	EAFB	
	Thornton, Kathryn C. - MS			
	Hieb, Richard J. - MS			
	Akers, Thomas D. - MS			
	Melnick, Bruce E. - MS			
<b>STS-50</b>	Richards, Richard N. - CDR	13/19/30	Jun-25- 92	11:12 a.m. CDT
Columbia	Bowersox, Kenneth D. - PLT	221	Jul-09- 92	06:42 a.m. CDT
	Dunbar, Bonnie J. – MS (PYLD CDR)	5,758,332	KSC	
	Baker, Ellen S. - MS			
	Meade, Carl J. - MS			
	DeLucas, Lawrence J. - PS			
	Trinh, Eugene H. - PS			
<b>STS-46</b>	Shriver, Loren J. - CDR	07/2316	Jul-31- 92	08:57 a.m. CDT
Atlantis	Allen, Andrew M. - PLT	127	Aug-08- 92	08:12 a.m. CDT
	Hoffman, Jeffrey A. - MS	3,321,007	KSC	
	Chang-Diaz, Franklin R. – MS (PYLD CDR)			
	Nicollier, Claude - MS (Switzerland)			
	Ivins, Marsha S. - MS			
	Malerba, Franco - PS (Italy)			
<b>STS-47</b>	Gibson, Robert L. - CDR	7/22/30	Sep-12- 92	09:23 a.m. CDT
Endeavour	Brown, Curtis L. - PLT	127	Sep-20- 92	07:53 a.m. CDT

	Lee, Mark C. - MS1 (PYLD CDR)	3,310,922	KSC	
	Apt, Jerome - MS2			
	Davis, N. Jan - MS3			
	Jemison, Mae C. - MS4			
	Mohri, Mamoru - PS1 (Japan)			
<b>STS-52</b>	Wetherbee, James D. - CDR	9/20/56	Oct-22-92	12:09 p.m. CDT
Columbia	Baker, Michael A. - PLT	159	Nov-01-92	08:05 a.m. CST
	Veach, Charles Lacy - MS1	4,129,028	KSC	
	Shepherd, William M. - MS2			
	Jernigan, Tamara E - MS3			
	MacLean, Steve - PS1 (Canada)			
<b>STS-53</b>	Walker, David M. - CDR	7/07/19	Dec-02-92	07:24 a.m. CST
Discovery	Cabana, Robert D. - PLT	116	Dec-09-92	02:43 p.m. CST
	Bluford, Guion S. - MS1	3,034,680	EDW	
	Voss, James S. - MS2			
	Clifford, Michael R. - MS3			
<b>STS-54</b>	Casper, John H. - CDR	5/23/38	Jan-13-93	07:59 a.m. CST
Endeavour	McMonagle, Donald R. - PLT	96	Jan-19-93	07:38 a.m. CST
	Runco, Jr., Mario - MS1	2,501,277	KSC	
	Harbaugh, Gregory J. - MS2			
	Helms, Susan J. - MS3			
<b>STS-56</b>	Cameron, Kenneth D. - CDR	9/6/9	Apr-09-93	12:29 a.m. CDT
Discovery	Oswald, Stephen S. - PLT	148	Apr-17-93	06:37 a.m. CDT

	Foale, C. Michael - MS1	3,853,997	KSC	
	Cockrell, Kenneth D. - MS2			
	Ochoa, Ellen - MS3			
<b>STS-55</b>	Nagel, Steven R. - CDR	9/23/39	Apr-26-93	09:50 a.m. CDT
Columbia	Henricks, Terence T. - PLT	160	May-06-93	09:30 a.m. CDT
	Ross, Jerry L. - MS1	4,164,183	EAFB	
	Precourt, Charles J. - MS2			
	Harris, Jr., Bernard A. - MS3			
	Walter, Ulrich - PS1 (Germany)			
	Schlegel, Hans W. - PS2 (Germany)			
<b>STS-57</b>	Grabe, Ronald J. - CDR	9/23/44	Jun-21-93	08:07 a.m. CDT
Endeavour	Duffy, Brian - PLT	155	Jul-01-93	07:52 a.m. CDT
	Low, G. David - MS1	4,118,037	KSC	
	Currie (Sherlock), Nancy - MS2			
	Wisoff, Peter J.K. - MS3			
	Voss, Janice E. - MS4			
<b>STS-51</b>	Culbertson, Jr., Frank L. - CDR	9/20/11	Sep-12-93	06:45 a.m. CDT
Discovery	Readdy, William F. - PLT	158	Sep-22-93	02:56 a.m. CDT
	Newman, James H. - MS1	4,106,411	KSC	
	Bursch, Daniel W. - MS2			
	Walz, Carl E. - MS3			
<b>STS-58</b>	Blaha, John E. - CDR	14/00/12	Oct-18-93	09:53 a.m. CDT
Columbia	Searfoss, Richard A. - PLT	225	Nov-01-93	09:06 a.m. CST

	Seddon, M. Rhea - MS1 (PYLD CDR)	5,840,450	EDW	
	McArthur, William S. - MS2			
	Wolf, David A. - MS3			
	Lucid, Shannon W. - MS4			
	Fettman, Martin J. - PS			
<b>STS-61</b>	Covey, Richard O. - CDR	10/19/58	Dec-02- 93	03:27 a.m. CST
Endeavour	Bowersox, Kenneth D. - PLT	163	Dec-12- 93	11:26 p.m. CST
	Musgrave, F. Story - MS4 (PYLD CDR)	4,433,772	KSC	
	Thornton, Kathryn C. - MS1			
	Nicollier, Claude - MS2			
	Hoffman, Jeffrey A. - MS3			
	Akers, Thomas D. - MS5			
<b>STS-60</b>	Bolden, Jr., Charles F. - CDR	8/07/09	Feb-03- 94	06:10 a.m. CST
Discovery	Reightler, Jr., Kenneth S. - PLT	130	Feb-11- 94	01:19 p.m. CST
	Chang-Diaz, Franklin R. - MS3	3,439,704	KSC	
	(PYLD CDR)			
	Davis, N. Jan - MS1			
	Sega, Ronald M. - MS2			
	Krikalev, Sergei K. - MS4 (Russia)			
<b>STS-62</b>	Casper, John H. - CDR	13/23/16	Mar-04- 94	07:53 a.m. CST
Columbia	Allen, Andrew M. - PLT	224	Mar-18- 94	07:09 a.m. CST
	Thuot, Pierre J. - MS1	5,820,146	KSC	
	Gemar, Charles D. - MS2			
	Ivins, Marsha S. - MS3			
<b>STS-59</b>	Gutierrez, Sidney M. - CDR	11/05/49	Apr-09- 94	06:06 a.m. CDT

Endeavour	Chilton, Kevin P. - PLT	182	Apr-20- 94	11:54 a.m. CDT
	Godwin, Linda M. - MS3 (PYLD CDR)	4,704,835	EAFB	
	Apt, Jerome - MS1			
	Clifford, Michael R. - MS2			
	Jones, Thomas D. - MS4			
<b>STS-65</b>	Cabana, Robert D. - CDR	14/17/55	Jul-08- 94	11:43 a.m. CDT
Columbia	Halsell, Jr., James D. - PLT	236	Jul-23- 94	05:38 a.m. CDT
	Hieb, Richard J. - MS1 (PYLD CDR)	6,143,846	KSC	
	Walz, Carl E. - MS2			
	Chiao, Leroy - MS3			
	Thomas, Donald A. - MS4			
	Naito-Mukai, Chiaki - PS1 (Japan)			
<b>STS-64</b>	Richards, Richard N. - CDR	10/22/49	Sep-09- 94	05:23 p.m. CDT
Discovery	Hammond, L. Blaine - PLT	177	Sep-20- 94	04:14 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			
<b>STS-68</b>	Baker, Michael A. - CDR	11/05/46	Sep-30- 94	06:16 a.m. CDT
Endeavour	Wilcutt, Terrence W. - PLT	182	Oct-11- 94	12:02 p.m. CDT
	Smith, Steven L. - MS1	4,703,000	EDW	
	Bursch, Daniel W. - MS2			
	Wisoff, Peter J. K. - MS3			
	Jones, Thomas D. - MS4 (PYLD CDR)			
<b>STS-66</b>	McMonagle, Donald R. - CDR	10/22/34	Nov-03- 94	11:00 a.m. CST
Atlantis	Brown, Curtis L. - PLT	175	Nov-14- 94	09:34 a.m. CST

	Ochoa, Ellen - MS1 (PYLD CDR)	4,554,791	EDW	
	Tanner, Joseph R. - MS2			
	Clervoy, Jean-Francois - MS3 (France)			
	Parazynski, Scott E.- MS4			
<b>STS-63</b>	Wetherbee, James D. - CDR	8/06/28	Feb-02- 95	11:22 p.m. CST
Discovery	Collins, Eileen M. - PLT	129	Feb-11- 95	05:51 a.m. CST
	Harris, Jr., Bernard A. - MS1 (PYLD CDR)	2,922,000	KSC	
	Foale, C. Michael - MS2			
	Voss, Janice E. - MS3			
	Titov, Vladimir - MS4 (Russia)			
<b>STS-67</b>	Oswald, Stephen S. - CDR	16/15/08	Mar-02- 95	12:38 a.m. CST
Endeavour	Gregory, William G. - PLT	262	Mar-18- 95	03:48 p.m. CST
	Grunsfeld, John M. - MS1	6,892,836	EDW	
	Lawrence, Wendy B. - MS2			
	Jernigan, Tamara E. - MS3 (PYLD CDR)			
	Durrance, Samuel T. - PS1			
	Parise, Ronald A. - PS2			
<b>STS-71</b>	Gibson, Robert L. - CDR	9/19/22	Jun-27- 95	02:32 p.m. CDT
Atlantis	Precourt, Charles J. - PLT	153	Jul-07- 95	09:55 a.m. CDT
	Baker, Ellen S. - MS1	4,100,000	KSC	
	Harbaugh, Gregory J. - MS2			
	Dunbar, Bonnie J.- MS3			
	Solovyev, Anatoly Y. - M19 CDR (Russia, up)			
	Budarin, Nikolai M. - M19 FE (Russia, up)			

	Dezhurov, Vladimir - M18 CDR (Russia, down)			
	Strekalov, Gennady - M18 FE (Russia, down)			
	Thagard, Norman E. - M18 (down)			
<b>STS-70</b>	Henricks, Terence T. – CDR	8/22/20	Jul-13-95	08:42 a.m. CDT
Discovery	Kregel, Kevin R. – PLT	142	Jul-22-95	07:02 a.m. CDT
	Thomas, Donald A. - MS1	3,700,000	KSC	
	Currie, Nancy J. - MS2			
	Weber, Mary Ellen - MS3			
<b>STS-69</b>	Walker, David M. – CDR	10/20/28	Sep-07-95	10:09 a.m. CDT
Endeavour	Cockrell, Kenneth D. – PLT	170	Sep-18-95	06:37 a.m. CDT
	Voss, James S. - MS1/EV1 (PYLD CDR)	4,500,000	KSC	
	Newman, James H. - MS2			
	Gernhardt, Michael L. - MS3/EV2			
<b>STS-73</b>	Bowersox, Kenneth D. – CDR	15/21/52	Oct-20-95	08:53 a.m. CDT
Columbia	Rominger, Kent V. – PLT	256	Nov-05-95	05:45 a.m. CST
	Coleman, Catherine G. - MS1	6,600,000	KSC	
	Lopez-Alegria, Michael E. - MS2			
	Thornton, Kathryn C. - MS3			
	Leslie, Fred W. - PS1			
	Sacco Jr., Albert - PS2			
<b>STS-74</b>	Cameron, Kenneth D. – CDR	8/04/30	Nov-12-95	06:31 a.m. CST
Atlantis	Halsell, James D., Jr. – PLT	129	Nov-20-95	11:01 a.m. CST



	Hadfield, Chris A. - MS1 (Canada)	3,400,000	KSC	
	Ross, Jerry L. - MS2			
	McArthur, William S. - MS3			
<b>STS-72</b>	Duffy, Brian - CDR	8/22/00	Jan-11-96	03:41 a.m. CST
Endeavour	Jett, Brent W. – PLT	142	Jan-20-96	01:42 a.m. CST
	Chiao, Leroy - MS1	3,700,000	KSC	
	Scott, Winston E. - MS2			
	Wakata, Koichi - MS3			
	Barry, Daniel T. - MS4			
<b>STS-75</b>	Allen, Andrew M. – CDR	15/17/40	Feb-22-96	02:18 p.m. CST
Columbia	Horowitz, Scott J. – PLT	252	Mar-09-96	07:58 a.m. CST
	Hoffman, Jeffrey A. - MS1	6,500,000	KSC	
	Cheli, Maurizio - MS2 (Italy)			
	Nicollier, Claude - MS3 (Switzerland)			
	Chang-Diaz, Franklin R. - MS4 (PYLD CDR)			
	Guidoni, Umberto - PS1 (Italy)			
<b>STS-76</b>	Chilton, Kevin P. – CDR	9/05/15	Mar-22-96	02:13 a.m. CST
Atlantis	Searfoss, Richard A. - PLT	144	Mar-31-96	07:29 a.m. CST
	Sega, Ronald M. - MS1 (PYLD CDR)	3,800,000	EDW	
	Clifford, Michael R. - MS2			
	Godwin, Linda M. - MS3			
	Lucid, Shannon W. - MS4 (up)			

<b>STS-77</b>	Casper, John H. – CDR	10/00/39	May- 19-96	05:30 a.m. CDT
Endeavour	Brown, Curtis L. – PLT	160	May- 29-96	06:09 a.m. CDT
	Thomas, Andrew - MS1	4,100,000	KSC	
	Bursch, Daniel W. - MS2			
	Runco, Mario - MS3			
	Garneau, Marc - MS4 (Canada)			
<b>STS-78</b>	Henricks, Terence T. - CDR	16/21/47	Jun-20- 96	09:49 a.m. CDT
Columbia	Kregel, Kevin R. – PLT	271	Jul-07- 96	07:37 a.m. CDT
	Linnehan, Richard M. - MS1	7,046,000	KSC	
	Helms, Susan J. - MS2 (PYLD CDR)			
	Brady, Charles E. - MS3			
	Favier, Jean-Jacques - PS1 (Canada)			
	Thirsk, Robert B. - PS2 (Canada)			
<b>STS-79</b>	Readdy, William F. - CDR	10/03/18	Sep-16- 96	03:55 a.m. CDT
Atlantis	Wilcutt, Terrence W. - PLT	159	Sep-26- 96	07:13 a.m. CDT
	Apt, Jerome - MS1	3,900,000	KSC	
	Akers, Thomas D. – MS			
	Walz, Carl E. - MS3			
	Blaaha, John E. - MS4 (up)			
	Lucid, Shannon W. - MS4 (down)			
<b>STS-80</b>	Cockrell, Kenneth D. - CDR	17/15/53	Nov-19- 96	01:56 p.m. CST
Columbia	Rominger, Kent V. - PLT	278	Dec-07- 96	05:49 a.m. CST
	Jernigan, Tamara E. - MS1	7,043,950	KSC	
	Jones, Thomas D. - MS2			
	Musgrave, F. Story - MS3			
<b>STS-81</b>	Baker, Michael A. – CDR	10/04/55	Jan-12- 97	03:27 a.m. CST

Atlantis	Jett, Brent W. – PLT	161	Jan-22- 97	08:23 a.m. CST
	Wisoff, Peter J.K. - MS1	3,900,000	KSC	
	Grunsfeld, John M. - MS2			
	Ivins, Marsha S. - MS3			
	Linenger, Jerry M. - MS4 (up)			
	Blaaha, John E. - MS4 (down)			
<b>STS-82</b>	Bowersox, Kenneth D. - CDR	9/23/37	Feb-11- 97	02:55 a.m. CST
Discovery	Horowitz, Scott J. – PLT	149	Feb-21- 97	02:32 a.m. CST
	Tanner, Joseph R. - MS1	3,800,000	KSC	
	Hawley, Steve A. - MS2			
	Harbaugh, Gregory J. - MS3			
	Lee, Mark C. - MS4			
	Smith, Steven L. - MS5			
<b>STS-83</b>	Halsell, James D. – CDR	3/23/12	Apr-04- 97	01:21 p.m. CST
Columbia	Still (Kilrain), Susan L. - PLT	63	Apr-08- 97	01:33 p.m. CDT
	Voss, Janice E. - MS1 (PYLD CDR)	1,500,000	KSC	
	Gernhardt, Michael L. - MS2			
	Thomas, Donald A. - MS3			
	Crouch, Roger K. - PS1			
	Linteris, Gregory T. - PS2			
<b>STS-84</b>	Precourt, Charles J. – CDR	9/05/19	May- 15-97	03:08 a.m. CDT
Atlantis	Collins, Eileen M. – PLT	144	May- 24-97	08:28 a.m. CDT
	Clervoy, Jean- Francois - MS1 (France)	3,600,000	KSC	
	Noriega, Carlos I. - MS2			
	Lu, Edward T. - MS3			
	Kondakova, Elena V. - MS4 (Russia)			
	Foale, C. Michael (up)			

	Linenger, Jerry M. (down)			
<b>STS-94</b>	Halsell, James D. – CDR	15/16/44	Jul-01-97	01:02 p.m. CDT
Columbia	Still (Kilrain), Susan L. - PLT	251	Jul-17-97	05:47 a.m. CDT
	Voss, Janice E. - MS1 (PYLD CDR)	6,200,000	KSC	
	Gernhardt, Michael L. - MS2			
	Thomas, Donald A. - MS3			
	Crouch, Roger K. - PS1			
	Linteris, Gregory T. - PS2			
<b>STS-85</b>	Brown, Curtis L. – CDR	11/20/26	Aug-07-97	09:41 a.m. CDT
Discovery	Rominger, Kent V. – PLT	189	Aug-19-97	06:08 a.m. CDT
	Davis, N. Jan - MS1 (PYLD CDR)	4,725,000	KSC	
	Curbeam, Robert L. - MS2			
	Robinson, Steven K. - MS3			
	Tryggvason, Bjarni V. - PS1 (Canada)			
<b>STS-86</b>	Wetherbee, James D. – CDR	10/19/20	Sep-25-97	09:34 p.m. CDT
Atlantis	Bloomfield, Michael J. - PLT	169	Oct-06-97	04:55 p.m. CDT
	Titov, Vladimir - MS1 (Russia)	4,225,000	KSC	
	Parazynski, Scott E. - MS2			
	Chretien, Jean-Loup - MS3 (France)			
	Lawrence, Wendy B. - MS4			
	Wolf, David A. - MS5 (up)			
	Foale, C. Michael - MS5 (down)			
<b>STS-87</b>	Kregel, Kevin R. – CDR	15/16/34	Nov-19-97	01:46 p.m. CST

Columbia	Lindsey, Steven W. – PLT	251	Dec-05- 97	06:20 a.m. CST
	Chawla, Kalpana - MS1	6,544,000	KSC	
	Scott, Winston E. - MS2			
	Doi, Takao - MS3 (Japan)			
	Kadenyuk, Leonid K. - PS1 (Ukraine)			
<b>STS-89</b>	Wilcutt, Terrence W. – CDR	8/19/46	Jan-22- 98	08:48 p.m. CST
Endeavour	Edwards Jr., Joe F. – PLT	138	Jan-31- 98	04:35 p.m. CST
	Reilly II, James F. - MS1	3,610,000	KSC	
	Anderson, Michael P. - MS2			
	Dunbar, Bonnie J. - MS3 (PYLD CDR)			
	Sharipov, Salizhan - MS4 (Russia)			
	Thomas, Andrew S. W. - MS5 (up)			
	Wolf, David A. - MS5 (down)			
<b>STS-90</b>	Searfoss, Richard A. – CDR	15/21/49	Apr-17- 98	01:19 p.m. CDT
Columbia	Altman, Scott D. – PLT	255	May- 03-98	11:09 a.m. CDT
	Linnehan, Richard M. - MS1 (PYLD CDR)	6,375,000	KSC	
	Hire, Kathryn P. - MS2			
	Williams, David R. -MS3 (Canada)			
	Buckey Jr., Jay Clark - PS1			
	Pawelczyk, James A. - PS2			
<b>STS-91</b>	Precourt, Charles J. – CDR	9/19/53	Jun-02- 98	05:06 p.m. CDT
Discovery	Gorie, Dominic L. – PLT	154	Jun-12- 98	01 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)			
<b>STS-95</b>	Brown, Curtis L. – CDR	8/21/43	Oct-29- 98	01:20 p.m. CST
Discovery	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			
	Naito-Mukai, Chiaki - PS1			
	Glenn Jr., John H. - PS2			
<b>STS-88</b>	Cabana, Robert D. – CDR	11/19/17	Dec-04- 98	02:36 a.m. CST
Endeavour	Sturckow, Frederick W. - PLT	185	Dec-15- 98	09:54 p.m. CST
	Ross, Jerry L. - MS1	4,650,000	KSC	
	Currie, Nancy J. - MS2			
	Newman, James H. - MS3			
	Krikalev, Sergei - MS4 (Russia)			
<b>STS-96</b>	Rominger, Kent V. – CDR	9/19/13	May- 27-99	05:50 a.m. CDT
Discovery	Husband, Rick D. – PLT	153	Jun-06- 99	01:03 a.m. CDT
	Jernigan, Tamara E. - MS1	4,051,000	KSC	
	Ochoa, Ellen - MS2			
	Barry, Daniel T. - MS3			
	Payette, Julie - MS4 (Canada)			
	Tokarev, Valery - MS5 (Russia)			
<b>STS-93</b>	Collins, Eileen M. – CDR	4/22/49	Jul-22- 99	11:31 p.m. CDT
Columbia	Ashby, Jeffrey S. – PLT	79	Jul-27- 99	10:21 p.m. CDT
	Coleman, Catherine G. - MS1	1,796,000	KSC	
	Hawley, Steven A. - MS2			

	Tognini, Michel - MS3 (France)			
<b>STS-103</b>	Brown, Curtis L. – CDR	7/23/11	Dec-19-99	06:50 p.m. CST
Discovery	Kelly, Scott J. – PLT	120	Dec-27-99	06:01 p.m. CST
	Smith, Steven L. - MS1	3,267,360	KSC	
	Clervoy, Jean-Francois - MS2 (France)			
	Grunsfeld, John M. - MS3			
	Foale, C. Michael - MS4			
	Nicollier, Claude - MS5 (Switzerland)			
<b>STS-99</b>	Kregel, Kevin R. – CDR	11/05/38	Feb-11-00	11:44 a.m. CST
Endeavour	Gorie, Dominic L. – PLT	181	Feb-22-00	05:22 p.m. CST
	Thiele, Gerhard- MS1 (Germany)	4,708,821	KSC	
	Kavandi, Janet L. - MS2			
	Voss, Janice E. - MS3			
	Mohri, Mamoru - MS4 (Japan)			
<b>STS-101</b>	Halsell, James D. – CDR	9/20/09	May-19-00	05:11 a.m. CDT
Atlantis	Horowitz, Scott J. – PLT	155	May-29-00	01:20 a.m. CDT
	Weber, Mary Ellen - MS1	5,076,281	KSC	
	Williams, Jeff N. - MS2			
	Voss, James S. - MS3			
	Helms, Susan J. - MS4			
	Usachev, Yury - MS5 (Russia)			
<b>STS-106</b>	Wilcutt, Terrence W. – CDR	11/19/12	Sep-08-00	07:46 a.m. CDT
Atlantis	Altman, Scott D. – PLT	203	Sep-20-00	02:56 a.m. CDT
	Lu, Edward T. - MS1	4,919,243	KSC	

	Mastracchio, Richard A. - MS2			
	Burbank, Daniel C. - MS3			
	Malenchenko, Yuri - MS4 (Russia)			
	Morukov, Boris - MS5 (Russia)			
<b>STS-92</b>	Duffy, Brian - CDR	12/21/40	Oct-11- 00	06:17 p.m. CDT
Discovery	Melroy, Pamela A. – PLT	202	Oct-24- 00	04:00 p.m. CDT
	Chiao, Leroy - MS1	5,331,301	EDW	
	McArthur, William S. - MS2			
	Wisoff, Peter J. K. - MS3			
	Lopez-Alegria, Michael E. - MS4			
	Wakata, Koichi - MS5 (Japan)			
<b>STS-97</b>	Jett Jr., Brent W. – CDR	10/19/58	Nov-30- 00	09:06 p.m. CST
Endeavour	Bloomfield, Michael J. – PLT	170	Dec-11- 00	05:04 p.m. CST
	Tanner, Joseph R. - MS1	4,476,164	KSC	
	Noriega, Carlos I. - MS3			
	Garneau, Marc - MS2 (Canada)			
<b>STS-98</b>	Cockrell, Kenneth D. – CDR	12/21/20	Feb-7- 01	05:13 p.m. CST
Atlantis	Polansky, Mark L. – PLT	203	Feb-20- 01	02:33 p.m. CST
	Curbeam, Robert L. - MS1	5,369,576	EDW	
	Ivins, Marsha S. - MS2			
	Jones, Thomas D. - MS3			
<b>STS-102</b>	Wetherbee, James D. – CDR	12/19:49	Mar-8- 01	05:42 a.m. CST
Discovery	Kelly, James M. – PLT	201	Mar-21- 01	01:31 a.m. CST



	Thomas, Andrew S. W. - MS1	5,357,432	KSC	
	Richards, Paul W. - MS2			
	Voss, James S. - MS3 (Exp 2 up)			
	Helms, Susan J. - MS4 (Exp 2, up)			
	Usachev, Yury - MS5 (Exp 2, Russia, up)			
	Shepherd, William M. - (Exp 1, down)			
	Gidzenko, Yuri - (Exp 1, Russia, down)			
	Krikalev, Sergei - (Exp 1, Russia, down)			
<b>STS-100</b>	Rominger, Kent V. – CDR	11/21/30	Apr-19-01	01:41 p.m. CDT
Endeavour	Ashby, Jeffrey S. – PLT	186	May-1-01	11:11 a.m. CDT
	Hadfield, Chris - MS1 (Canada)	4,910,188	EDW	
	Phillips, John L. - MS2			
	Parazynski, Scott E. - MS3			
	Guidoni, Umberto - MS4 (Italy)			
	Lonchakov, Yuri - MS5 (Russia)			
<b>STS-104</b>	Lindsey, Steven W. – CDR	12/18/35	Jul-12-01	04:04 a.m. CDT
Atlantis	Hobaugh, Charles O. – PLT	200	Jul-24-01	10:39 p.m. CDT
	Gernhardt, Michael L. - MS1	5,309,429	KSC	
	Kavandi, Janet L. - MS2			
	Reilly II, James F. - MS3			
<b>STS-105</b>	Horowitz, Scott J. – CDR	11/21/13	Aug-10-01	04:10 p.m. CDT
Discovery	Sturckow, Frederick W. - PLT	186	Aug-22-01	01:23 p.m. CDT
	Forrester, Patrick G. - MS1	4,912,389	KSC	
	Barry, Daniel T. - MS2			
	Culbertson Jr., Frank L. - MS3 (Exp 3, up)			
	Dezhurov, Vladimir - MS4 (Exp 3, Russia, up)			

	Tyurin, Mikhail - MS5 (Exp 3, Russia, up)			
	Voss, James S. - MS3 (Exp 2, down)			
	Helms, Susan J. - MS4 (Exp 2, down)			
	Usachev, Yury - MS5 (Exp 2, Russia, down)			
<b>STS-108</b>	Gorie, Dominic L. – CDR	11/19/36	Dec-5-01	04:19 p.m. CST
Endeavour	Kelly, Mark E. – PLT	185	Dec-17-01	11:55 a.m. CST
	Godwin, Linda W. - MS1	4,817,649	KSC	
	Tani, Daniel M. - MS2			
	Walz, Carl E.- MS3, (Exp 4, up)			
	Bursch, Daniel W. - MS4 (Exp 4, up)			
	Onufrienko, Yury - MS5 (Exp 4, Russia, up)			
	Culbertson Jr., Frank L. - MS3 (Exp 3, down)			
	Dezhurov, Vladimir - MS4 (Exp 3, Russia, down)			
	Tyurin, Mikhail - MS5 (Exp 3, Russia, down)			
<b>STS-109</b>	Altman, Scott D. – CDR	10/22/10	Mar-1-02	05:22 a.m. CST
Columbia	Carey, Duane G. – PLT	165	Mar-12-02	03:32 a.m. CST
	Grunsfeld, John M. - MS1 (PYLD CDR)	3,941,705	KSC	
	Currie, Nancy J. - MS2			
	Linnehan, Richard M. - MS3			
	Newman, James H. - MS4			
	Massimino, Michael J. - MS5			
<b>STS-110</b>	Bloomfield, Michael J. – CDR	10/19/43	Apr-08-02	03:44 p.m. CDT
Atlantis	Frick, Steven N. – PLT	170	Apr-19-02	11:27 a.m. CDT
	Walheim, Rex J. - MS1	4,525,299	KSC	
	Ochoa, Ellen - MS2			

	Morin, Lee M. - MS3			
	Ross, Jerry L. - MS4			
	Smith, Steven L. - MS5			
<b>STS-111</b>	Cockrell, Kenneth D. – CDR	13/20/35	Jun-05-02	04:23 p.m. CDT
Endeavour	Lockhart, Paul S. – PLT	217	Jun-19-02	12:58 p.m. CDT
	Chang-Diaz, Franklin R. - MS1	5,781,115	EDW	
	Perrin, Philippe - MS2 (France)			
	Korzun, Valery – MS3 (Exp 5, Russia, up)			
	Whitson, Peggy A. – MS5 (Exp 5, up)			
	Onufrienko, Yury - MS3 (Exp 4, Russia, down)			
	Walz, Carl E. – MS4 (Exp 4, down)			
	Bursch, Daniel W. - MS5 (Exp 4, down)			
<b>STS-112</b>	Ashby, Jeffrey S. - CDR	10/19/58	Oct-07-02	02:46 p.m. CDT
Atlantis	Melroy, Pamela A. - PLT	170	Oct-18-02	10:44 a.m. CDT
	Wolf, David A. - MS1	4,513,015	KSC	
	Magnus, Sandra H. - MS2			
	Sellers, Piers J. - MS3			
	Yurchikhin, Fyodor - MS4 (Russia)			
<b>STS-113</b>	Wetherbee, James D. – CDR	13/18/47	Nov-23-02	06:50 p.m. CST
Endeavour	Lockhart, Paul S. - PLT	215	Dec-07-02	01:37 p.m. CST
	Lopez-Alegria, Michael E. - MS1	5,735,600	KSC	
	Herrington, John B. - MS2			
	Bowersox, Kenneth D.– MS3 (Exp 6, up)			
	Budarin, Nikolai - MS4 (Exp 6, Russia, up)			
	Pettit, Donald R. - MS5 (Exp 6, up)			
	Korzun, Valery - MS3 (Exp 5, Russia, down)			
	Whitson, Peggy A. - MS4 (Exp 5, down)			
	Treschev, Sergei - MS5 (Exp 5, Russia, down)			

<b>STS-107</b>	Husband, Rick D. - CDR	15/22/20	Jan-16-03	09:39 a.m. CST
Columbia	McCool, William C. - PLT	255	Feb-01-03	07:59 a.m. CST
	Brown, David M. - MS1	6,649,757		
	Chawla, Kalpana - MS2			
	Anderson, Anderson P. - MS3			
	Clark, Laurel B. - MS4			
	Ramon, Ilan - PS1 (Israel)			
<b>STS-114</b>	Collins, Eileen M. - CDR	13/21/32	Jul-26-05	09:39 a.m. CDT
Discovery	Kelly, James M. - PLT	220	Aug-09-05	07:11 a.m. CDT
	Noguchi, Soichi - MS1 (Japan)	5,796,419	EDW	
	Robinson, Steven K. - MS2			
	Thomas, Andrew S. W. - MS3			
	Lawrence, Wendy B. - MS4			
	Camarda, Charles J. - MS5			
<b>STS-121</b>	Lindsey, Steven W. - CDR	12/18/37	Jul-4-06	01:38 p.m. CDT
Discovery	Kelly, Mark E. - PLT	202	Jul-17-06	08:15 a.m. CDT
	Fossum, Michael E. - MS1	5,293,923	KSC	
	Nowak, Lisa M. - MS2			
	Wilson, Stephanie D. - MS3			
	Sellers, Piers J. - MS 4			
	Reiter, Thomas - MS5 (Exp 13/14, up) (Germany)			
<b>STS-115</b>	Jett, Brent W. - CDR	11/19/06	Sep-09-06	10:15 a.m. CT
Atlantis	Ferguson, Christopher J. - PLT	186	Sep-21-06	05:21 a.m. CT
	Tanner, Joseph R. - MS 1	4,910,268	KSC	
	Burbank, Daniel C. - MS 2			
	Stefanyshyn-Piper, Heidemarie M. - MS3			
	MacLean, Steve - MS4 (Canada)			
<b>STS-116</b>	Polansky, Mark L. - CDR	12/20/45	Dec-09-06	07:47 p.m. CT

Discovery	Oefelein, William A. - PLT	203	Dec-22-06	04:32 p.m. CT
	Patrick, Nicholas J. M. - MS1	5,330,398	KSC	
	Curbeam, Robert L. - MS2			
	Fuglesang, Christer – MS3 (Sweden)			
	Higginbotham, Joan E. - MS4			
	Williams, Sunita L. - MS5 (Exp 14/15, up)			
	Reiter, Thomas - MS5 (Exp. 13/14, down) (Germany)			
<b>STS-117</b>	Sturckow, Frederick W. - CDR	13/20/11	Jun-08-07	06:38 p.m. CT
Atlantis	Archambault, Lee J. - PLT	220	Jun-22-07	02:49 p.m. CT
	Forrester, Patrick G. - MS1	5,809,363	EDW	
	Swanson, Steven R. - MS2			
	Olivas, John D. - MS3			
	Reilly II, James F. - MS4			
	Anderson, Clayton C. - MS5 (up)			
	Williams, Sunita L. - MS5 (down)			
<b>STS-118</b>	Kelly, Scott J. - CDR	12/17/56	Aug-08-07	05:36 p.m. CT
Endeavour	Hobaugh, Charles O. - PLT	201	Aug-21-07	11:32 a.m. CT
	Dyson, Tracy Caldwell - MS1	5,274,977	KSC	
	Mastracchio, Richard A. - MS2			
	Williams, David R. – MS3 (Canada)			
	Morgan, Barbara R. – MS4			
	Drew, B. Alvin Jr. - MS5			
<b>STS-120</b>	Melroy, Pamela A. - CDR	15/02/23	Oct-23-07	10:38 a.m. CDT
Discovery	Zamka, George D. - PLT	238	Nov-07-07	12:01 p.m. CST
	Parazynski, Scott E. - MS1	6,249,432	KSC	
	Wilson, Stephanie D. - MS2			
	Wheelock, Douglas H. - MS3			
	Nespoli, Paolo - MS4 (Italy)			
	Tani, Daniel M. - MS5 (up)			
	Anderson, Clayton C. - MS5 (down)			
<b>STS-122</b>	Frick, Steven N. - CDR	12/18/22	Feb-07-08	01:45 p.m. CST

Atlantis	Poindexter, Alan G. - PLT	202	Feb-20-08	08:07 a.m. CST
	Melvin, Leland D. - MS1	5,296,842	KSC	
	Walheim, Rex J. - MS2			
	Schlegel, Hans – MS3 (Germany)			
	Love, Stanley G. - MS4			
	Eyharts, Leopold - MS5 (up) (France)			
	Tani, Daniel M. - MS5 (down )			
<b>STS-123</b>	Gorie, Dominic L. - CDR	15/18/11	Mar-11-08	01:28 a.m. CDT
Endeavour	Johnson, Greg H. - PLT		Mar-26-08	07:39 p.m. CDT
	Behnken, Robert L. - MS1	6,577,857	KSC	
	Foreman, Michael J. - MS2			
	Doi, Takao - MS 3 (Japan)			
	Linnehan, Richard M. - MS4			
	Reisman, Garrett E. - MS5 (up)			
	Eyharts, Leopold - MS5 (down) (France)			
<b>STS-124</b>	Kelly, Mark E. - CDR	13/18/13	May-31-08	04:02 p.m. CDT
Discovery	Ham, Kenneth T. - PLT	217	Jun-14-08	10:15 a.m. CDT
	Nyberg, Karen L. - MS1	5,735,643	KSC	
	Garan Jr., Ronald J. - MS2			
	Fossum, Michael E. - MS3			
	Hoshide, Akihiko - MS4 (Japan)			
	Chamitoff, Gregory E. - MS5 (up)			
	Reisman, Garrett E. - MS5 (down)			
<b>STS-126</b>	Ferguson, Christopher J. - CDR	15/20/30	Nov-14-08	06:55 p.m. CST
Endeavour	Boe, Eric A. - PLT	251	Nov-30-08	03:25 p.m. CST
	Pettit, Donald R. - MS1	6,615,109	EDW	
	Bowen, Stephen G. - MS2			
	Stefanyshyn-Piper, Heidemarie M. – MS3			
	Kimbrough, Robert S. - MS4			

	Magnus, Sandra H. - MS5 (up)			
	Chamitoff, Gregory E. - MS5 (down)			
<b>STS-119</b>	Archambault, Lee J. - CDR	12/19/29	Mar-15-09	06:43 p.m. CDT
Discovery	Antonelli, Dominic A. - PLT	202	Mar-28-09	02:15 p.m. CDT
	Acaba, Joseph M. - MS1	5,304,106	KSC	
	Swanson, Steven R. - MS2			
	Arnold, Richard R. - MS3			
	Phillips, John L. - MS4			
	Wakata, Koichi-MS5 (down) (Japan)			
	Magnus, Sandra H. - MS5 (down)			
<b>STS-125</b>	Altman, Scott D. – CDR	12/21/37	May-11-09	01:01 p.m. CDT
Atlantis	Johnson, Gregory C. – PLT	197	May-24-09	10:39 a.m. CDT
	Good, Michael T. - MS1	5,276,000	EDW	
	McArthur, K. Megan - MS2			
	Grunsfeld, John M. - MS3			
	Massimino, Michael J. - MS4			
	Feustel, Andrew J. - MS5			
<b>STS-127</b>	Polansky, Mark L. - CDR	15/16/45	July-15-09	05:03 p.m. CDT
Endeavour	Hurley, Douglas G. - PLT	248	July-31-09	09:48 a.m. CDT
	Cassidy, Christopher J. - MS1	6,547,853	KSC	
	Payette, Julie - MS2 (Canada)			
	Marshburn, Thomas H. - MS3			
	Wolf, David A. - MS4			
	Kopra, Timothy L. - MS5 (up)			
	Wakata, Koichi - MS5 (down) (Japan)			
<b>STS-128</b>	Sturckow, Frederick W. - CDR	13/20/54	Aug-28-09	10:59 p.m. CDT
Discovery	Ford, Kevin A. - PLT	219	Sep-11-09	07:53 p.m. CDT

	Forrester, Patrick G. - MS1	5,755,275	EDW	
	Hernandez, Jose M. - MS2			
	Olivas, John D. - MS3			
	Fuglesang, Christer - MS4 (Sweden)			
	Stott, Nicole P. - MS5 (up)			
	Kopra, Timothy L. - MS5 (down)			
<b>STS-129</b>	Hobaugh, Charles O. - CDR	10/19/16	Nov-16-09	01:28 p.m. CST
Atlantis	Wilmore, Barry E. - PLT	171	Nov-27-09	08:44 a.m. CST
	Melvin, Leland D. - MS1	4,490,138	KSC	
	Bresnik, "Randy" - MS2			
	Foreman, "Mike" - MS3			
	Satcher Jr., Robert L. - MS4			
	Stott, Nicole P. - MS5 (down)			
<b>STS-130</b>	Zamka, George D. - CDR	13/18/06	Feb-08-10	03:14 a.m. CST
Endeavour	Virts Jr., Terry W. - PLT	217	Feb-21-10	09:20 p.m. CST
	Hire, Kathryn P. - MS1	5,738,991	KSC	
	Robinson, Stephen K. - MS2			
	Patrick, Nicholas J. M. - MS3			
	Behnken, Robert L. - MS4			
<b>STS-131</b>	Poindexter, Alan G. - CDR	15/02/47	Apr-05-10	05:21 a.m. CDT
Discovery	Dutton Jr., James P. - PLT	238	Apr-20-10	08:08 a.m. CDT
	Mastracchio, Richard A. - MS1	6,232,235	KSC	
	Metcalf-Lindenberger, Dorothy M. - MS2			
	Wilson, Stephanie D. - MS3			
	Yamazaki, Naoko - MS4 (Japan)			
	Anderson, Clayton C. - MS5			



<b>STS-132</b>	Ham, Kenneth T. - CDR	11/18/28	May-14-10	01:20 p.m. CDT
Atlantis	Antonelli, Dominic A. - PLT	186	May-26-10	07:48 a.m. CDT
	Reisman, Garrett E. - MS1	4,879,978	KSC	
	Good, Michael T. - MS2			
	Bowen, Stephen G. - MS3			
	Sellers, Piers J. - MS4			
<b>STS-133</b>	Lindsey, Steve L. - CDR	12/19/00	Feb-24-11	03:53 p.m. CST
Discovery	Boe, Eric A. - PLT	202	Mar-09-11	10:57 a.m. CST
Final	Drew Jr., B. Alvin- MS1	5,304,140		
Flight (39 <sup>th</sup> )	Bowen, Stephen G. - MS2			
148,221,675 total miles	Barratt, Michael R. - MS3			
	Stott, Nicole P. - MS4			
<b>STS-134</b>	Kelly, Mark E. - CDR	15/17/39	May-16-11	07:56 a.m. CST
Endeavour	Johnson, Greg H. - PLT	248	Jun-01-11	01:35 a.m. CST
Final	Fincke, Michael E. - MS 1	6,510,221		
Flight (25 <sup>th</sup> )	Vittori, Roberto - MS2 (Italy)			
122,883,151 total miles	Feustel, Andrew J. - MS3			
	Chamitoff, Gregory E. - MS4			
<b>STS-135</b>	Ferguson, Christopher J. - CDR	12/18/27	Jul-08-01	10:29 a.m. CDT
Atlantis	Hurley, Douglas G. - PLT	200	Jul-21-11	04:57 a.m. CDT
Final	Magnus, Sandra H. - MS1	5,284,862		
Flight (33 <sup>rd</sup> )	Walheim, Rex J. - MS2			
125,935,769 total miles				

<b>Total Time Shuttles Were in Space:</b>	<b>37164 days, 31 hours, 05 minutes</b>		
<b>Total Miles Shuttles Flew:</b>	<b>542,398,878 (135 flights)</b>		

### 9.3 COMMERCIAL CREW PROGRAM MISSIONS

<b>Flight Vehicle</b>		<b>Duration Days/Hrs/Min Orbits Miles, sm</b>	<b>Date Launch, Location Landing, Location</b>	<b>Time Launch Landing</b>
<b>DM-2</b>	Hurley, Douglas G. - CDR	63/23/25	30 May 2020, KSC 39-A	02:22 p.m. CST
Endeavor	Behnken, Robert L. – JOC	1,024 27.1 million	02 Aug 2020, GOM	03:48 p.m. CST
<b>Crew-1</b>	Hopkins, Michael S. - CDR	167/06/29	16 Nov 2020, KSC 39-A	08:27 p.m. CST
Resilience	Glover, Victor J. - PLT Walker, Shannon – MS	2,688 71.1 million	02 May 2021, GOM	01:56 a.m. CST
	Noguchi, Soichi – MS (Japan)			
<b>Crew-2</b>	Kimbrough, R. Shane - CDR	198	23 April 2021, KSC 39-A	04:49 a.m. CST
Endeavor	McArthur, K. Megan - PLT	3,194	9 November 2021, GOM	9:33 p.m. CST
	Pesquet, Thomas – MS (ESA)	84,653,119		
	Hoshide, Aki – MS (Japan)			
<b>Crew-3</b>	Chari, Raja - CDR	177	10 November 2021, KSC 39-A	8:03 p.m. CST
	Marshburn, Thomas – PLT	2,832	6 May 2022, GOM	11:43 p.m. CST
	Barron, Kayla – MS	75,060,792		
	Maurer, Matthias – MS (ESA)			

<b>Crew-4</b>	Lindgren, Kjell - CDR		27 April 2022, KSC 39-A	2:52 a.m. CST
	Hines, Robert – PLT			
	Watkins, Jessica – MS			
	Cristoforetti, Samantha – MS (ESA)			

## 9.4 INTERNATIONAL SPACE STATION EXPEDITIONS

### Expedition 1

William Shepherd – Yuri Gidzenko – Sergei Krikalev

Launch: October 2000

Land: March 2001

141 days

### Expedition 2

Yury 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 Malenchenko – Ed Lu

### **Up with Expedition 8/Down with Expedition 7**

Pedro Duque

Launch: April 2003  
Land: October 2003  
185 days

Launch & Land: October 2003  
10 days

**Expedition 8**

Mike Foale – Alexander Kaleri  
Launch: October 2003  
Land: April 2004  
195 days

**Up with Expedition 9/Down with Expedition 8**

Andre Kuipers  
Launch & Land: April 2004  
11 days

**Expedition 9**

Gennady Padalka – Michael Fincke  
Launch: April 2004  
Land: October 2004  
188 days

**Up with Expedition 10/Down with Expedition 9**

Yuri Shargin  
Launch & Land: October 2004  
10 days

**Expedition 10**

Leroy Chiao – Salizhan Sharipov  
Launch: October 2004  
Land: April 2005  
193 days

**Up with Expedition 11/Down with Expedition 10**

Roberto Vittori  
Launch & Land: April 2005  
10 days

**Expedition 11**

Sergei Krikalev – John Phillips  
Launch: April 2005  
Land: October 2005 (with [Greg Olson](#))  
179 days

**Expedition 12**

William McArthur – Valery Tokarev  
Launch: October 2005 (with [Greg Olson](#))  
Land: April 2006  
190 days

**Expedition 13**

Pavel Vinogradov – Jeffrey Williams  
Launch: March 2006  
Land: September 2006  
183 days

**Expedition 13 & Expedition 14**

Thomas Reiter  
Launch: July 2006  
Land: December 2006  
171 days

**Expedition 14**

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

**Expedition 14 & Expedition 15**

Sunita Williams  
Launch: December 2006  
Land: June 2007  
194 days

**Expedition 15**

Fyodor Yurchikhin – Oleg Kotov

**Expedition 15 & Expedition 16**

Clay Anderson

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  
Launch: February 2008  
Land: March 2008  
48 days

**Expedition 17**

Sergey 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 & Expedition 20**

Gennady Padalka – Michael Barratt  
Launch: March 2009  
Land: October 2009  
199 days

**Expedition 20 & Expedition 21**

Roman Romanenko – Frank DeWinne – Robert Thirsk  
Launch: May 2009  
Land: December 2009  
187 days

**Expedition 20**

Tim Kopra  
Launch: July 2009

Launch: June 2007  
Land: November 2007  
152 days

**Expedition 16**

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

**Expedition 16 & Expedition 17**

Garrett Reisman  
Launch: March 2008  
Land: June 2008  
95 days

**Expedition 17 & Expedition 18**

Gregory Chamitoff  
Launch: May 2008  
Land: November 2008  
183 days

**Expedition 18 & Expedition 19**

Koichi Wakata  
Launch: March 2009  
Land: July 2009  
137 days

Land: September 2009  
58 days

**Expedition 21 & Expedition 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

**Expedition 22 & Expedition 23**  
Oleg Kotov – Soichi Noguchi – Timothy Creamer  
Launch: December 2009  
Land: June 2010  
163 days

**Expedition 23 & Expedition 24**  
Aleksandr Skvortsov – Mikhail Kornienko – Tracy Caldwell Dyson  
Launch: April 2010  
Land: September 2010  
176 days

**Expedition 24 & Expedition 25**  
Douglas Wheelock – Fyodor Yurchikhin – Shannon Walker  
Launch: June 2010  
Land: November 2010  
163 days

**Expedition 25 & Expedition 26**  
Scott Kelly – Aleksandr Kaleri – Oleg Skripochka  
Launch: October 2010  
Land: March 2011  
159 days

**Expedition 26 & Expedition 27**  
Dmitri Kondratyev – Catherine Coleman – Paolo Nespoli  
Launch: December 2010  
Land: May 2011  
159 days

**Expedition 27 & Expedition 28**  
Andrey Borisenko – Aleksandr Samokutyaev – Ronald Garan  
Launch: April 2011  
Land: September 2011

164 days

**Expedition 28 & Expedition 29**

Michael Fossum – Sergey Volkov – Satoshi Furukawa

Launch: June 2011

Land: November 2011

167 days

**Expedition 29 & Expedition 30**

Daniel Burbank – Anton Shkaplerov – Anatoly Ivanishin

Launch: November 2011

Land: April 2012

165 days

**Expedition 30 & Expedition 31**

Oleg Kononenko – Donald Pettit – Andre Kuipers

Launch: December 2011

Land: July 2012

192 days

**Expedition 31 & Expedition 32**

Gennadi Padalka – Sergei Revin – Joseph Acaba

Launch: May 2012

Land: September 2012

123 Days

**Expedition 32 & Expedition 33**

Sunita Williams – Yuri Malenchenko – Aki Hoshide

Launch: July 2012

Land: November 2012

127 Days

**Expedition 33 & Expedition 34**

Kevin Ford – Oleg Novitsky – Yevgeni Tarelkin

Launch: October 2012

Land: March 2013

144 Days

**Expedition 34 & Expedition 35**

Chris Hadfield – Roman Romanenko – Tom Marshburn

Launch: December 2012

Land: May 2013

146 Days

**Expedition 35 & Expedition 36**

Pavel Vinogradov – Aleksander Misurkin – Chris Cassidy

Launch: March 2013

Land: September 2013

166 Days

**Expedition 36 & Expedition 37**

Fyodor Yurchikhin – Luca Parmitano – Karen Nyberg

Launch: May 2013

Land: November 2013

166 Days

**Expedition 37 & Expedition 38**

Oleg Kotov – Sergey Ryzansky – Mike Hopkins

Launch: September 2013

Land: March 2014

167 days

**Expedition 38 & Expedition 39**

Koichi Wakata – Mikhail Tyurin – Rick Mastracchio

Launch: November 2013

Land: May 2014

188 days

**Expedition 39 & Expedition 40**

Steve Swanson – Aleksandr Skvortsov – Oleg Artemiev

Launch: March 2014

Land: September 2014

169 days

**Expedition 40 & Expedition 41**

Makin Suraev – Reid Wiseman – Alexander Gerst

Launch: June 2014

Land: November 2014

165 days

**Expedition 41 & Expedition 42**

Barry Wilmore – Alexander Samokutyaev – Yelena Serova

Launch: September 2014

Land: March 2015

167 days

**Expedition 42 & Expedition 43**

Anton Shkaplerov – Samantha Cristoforetti – Terry Virts

Launch: November 2014

Land: May 2015

199 days

**Expedition 43 & Expedition 44**

Gennady Padalka

Launch: March 2015

Land: October 2015

168 days



**Expedition 43, Expedition 44, Expedition 45, Expedition 46**

Scott Kelly – Mikhail Kornienko

Launch: March 2015

Land: March 2016

340 days

**Expedition 44 & Expedition 45**

Oleg Kononenko – Kjell Lindgren – Kimiya Yui

Launch: May 2015

Land: March 2016

141 days

**Expedition 45 & Expedition 46**

Sergey Volkov

Launch: October 2015

Land: March 2016

182 days

**Visiting Crew**

Andreas Mogensen – Aidyn Aimbetov

Launch: with Volkov, October 2015

Land: with Padalka, October 2015

10 days

**Expedition 46 & Expedition 47**

Yuri Malenchenko – Tim Kopra – Timothy Peake

Launch: December 2015

Land: June 2016

186 days

**Expedition 47 & Expedition 48**

Jeff Williams – Alexey Ovchinin – Oleg Skripochka

Launch: March 2016

Land: September 2016

172 days

**Expedition 48 & Expedition 49**

Anatoly Ivanishin – Kate Rubins – Takuya Onishi

Launch: July 2016

Land: October 2016

115 days

**Expedition 49 & Expedition 50**

Shane Kimbrough – Sergey Ryzhikov – Andrey Borisenko

Launch: October 2016

Land: April 2017

173 days

**Expedition 50 & Expedition 51**

Oleg Novistsky – Thomas Pesquet  
Launch: November 2016  
Land: June 2017  
196 days

**Expedition 50, Expedition 51 & Expedition 52**

Peggy Whitson  
Launch: November 2016  
Land: September 2017  
288 days

**Expedition 51 & Expedition 52**

Jack Fischer – Fyodor Yurchikhin  
Launch: April 2017  
Land: September 2017  
136 days

**Expedition 52 & Expedition 53**

Sergey Ryazanskiy – Randy Bresnik – Paolo Nespoli  
Launch: July 2017  
Land: December 2017  
139 days

**Expedition 53 & Expedition 54**

Alexander Misurkin – Joseph Acaba – Mark Vande Hei  
Launch: September 2017  
Land: February 2018  
168 days

**Expedition 54 & Expedition 55**

Anton Shkaplerov – Scott Tingle – Norshige Kanai  
Launch: December 2017  
Land: June 2018  
168 days

**Expedition 55 & Expedition 56**

Oleg Aremyev – Drew Feustel – Ricky Arnold  
Launch: March 2018  
Land: October 2018  
197 days

**Expedition 56 & 57**

Alexander Gerst – Serena Auñón-Chancellor – Sergey Prokopyev  
Launch: June 2018  
Land: December 2018  
197 days

**Expedition 58 & Expedition 59**

Oleg Kononenko – Anne McClain – David St. Jacques

Launch: December 2018  
Land: June 2019  
204 days

**Expedition 59 & Expedition 60**

Aleksey Ovchinin – Nick Hague – Christina H. Koch  
Launch: March 14, 2019  
Land: October 3, 2019  
204 days

**Expedition 60 & Expedition 61**

Andrew Morgan – Luca Parmitano – Aleksandr Skvortsov  
Launch: July 20, 2019  
Land: February 6, 2020 (Christina H. Koch landed with Expedition 60-61)  
202 days

**Expedition 61 & Expedition 62**

Andrew Morgan – Jessica Meir – Oleg Skripochka  
Launch: September 25, 2019  
Land: April 17, 2020  
206 days

**Expedition 62 & Expedition 63**

Christopher Cassidy – Anatoli Ivanishin – Ivan Vagner  
Launch: April 9, 2020  
Land: October 21, 2020  
196 days

**Expedition 63**

Doug Hurley – Bob Behnken  
Launch: May 30, 2020  
Land: August 2, 2020  
65 days

**Expedition 63 & 64**

Sergey Ryzhikov – Sergey Kud-Sverchkov – Kathleen Rubins  
Launch: October 14, 2020  
Land: April 17, 2021  
181 days

**Expedition 64 & 65**

Michael Hopkins – Victor Glover – Soichi Noguchi – Shannon Walker  
Launch: November 16, 2020  
Land: May 2, 2021  
168 days

Oleg Novitsky

Launch: April 17, 2021  
Land: October 17, 2021

**Expedition 64, 65, & 66**

Pyotr Dubrov – Mark Vande Hei

Launch: April 17, 2021

Land: March 30, 2022

355 days

**Expedition 65**

Akihiko Hoshide – Shane Kimbrough – Megan McArthur – Thomas Pesquet

Launch: April 23, 2021

Land: November 9, 2021

**Expedition 66**

Raja Chari - Thomas Mashburn - Matthias Maurer - Kayla Barron

Launch: November 11, 2021

Land: May 6, 2022

**Expedition 67**

Kjell Lindgren – Robert Hines – Jessica Watkins – Samantha Cristoforetti

Launch: April 27, 2022

## 9.5 SPACEWALK STATISTICS FOR U.S. ASTRONAUTS

Michael E. Lopez-Algeria	10	67 hours – 40 minutes
Peggy A. Whitson	10	60 hours – 21 minutes
Andrew J. Feustel	9	61 hours – 48 minutes
Robert L. Behnken	10	61 hours – 10 minutes
Robert S. Kimbrough	9	59 hours – 28 minutes
Jerry L. Ross	9	57 hours – 55 minutes
Christopher J. Cassidy	10	54 hours – 51 minutes
Richard A. Mastracchio	9	53 hours – 04 minutes
E. Michael Fincke	9	48 hours – 36 minutes
John M. Grunsfeld	8	58 hours – 30 minutes
Sunita L. Williams	7	50 hours – 40 minutes
Steve L. Smith	7	49 hours – 48 minutes
Michael E. Fossum	7	48 hours – 32 minutes
Steve G. Bowen	7	47 hours – 18 minutes
David A. Wolf	7	47 hours – 05 minutes
Scott E. Parazynski	7	47 hours – 05 minutes
Joseph R. Tanner	7	46 hours – 29 minutes
Andrew R. Morgan	7	45 hours – 48 minutes
Robert L. Curbeam, Jr.	7	45 hours – 33 minutes
Douglas H. Wheelock	6	43 hours – 30 minutes
James H. Newman	6	43 hours – 13 minutes
Christina H. Koch	6	42 hours – 15 minutes
Richard J. Linnehan	6	42 hours – 12 minutes
Piers Sellers	6	41 hours – 10 minutes
Daniel M. Tani	6	39 hours – 11 minutes
Clayton C. Anderson	6	38 hours – 28 minutes
Leroy Chiao	6	36 hours – 19 minutes
Rex J. Walheim	5	36 hours – 23 minutes
John D. Olivas	5	34 hours – 28 minutes
Heidemarie Stefanyshyn-Piper	5	33 hours – 42 minutes
Michael J. Foreman	5	32 hours – 20 minutes
Richard R. Arnold	5	32 hours – 04 minutes
Michael S. Hopkins	5	32 hours – 01 minutes
Randolph J. Bresnik	5	32 hours – 00 minutes
Jeffrey N. Williams	5	31 hours – 55 minutes
Thomas Marshburn	5	31 hours - 1 minute
James F. Reilly	5	30 hours – 43 minutes
Michael J. Massimino	4	30 hours – 44 minutes
Michael T. Good	4	29 hours – 53 minutes
Thomas D. Akers	4	29 hours – 40 minutes
Steven R. Swanson	5	27 hours – 58 minutes
Ronald J. Garan, Jr.	4	27 hours – 03 minutes
Kathleen H. Rubins	4	26 hours – 46 minutes
Mark Vande Hei	4	26 hours – 42 minutes
Story Musgrave	4	26 hours – 19 minutes
Victor J. Glover	4	26 hours – 07 minutes
Mark C. Lee	4	26 hours – 01 minutes

Daniel T. Barry	4	25 hours – 53 minutes
Barry E. Wilmore	4	25 hours – 36 minutes
Patrick G. Forrester	4	25 hours – 30 minutes
Jeffrey A. Hoffman	4	25 hours – 08 minutes
William W. McArthur, Jr.	4	24 hours – 21 minutes
Eugene A. Cernan	4	24 hours – 14 minutes
Thomas H. Marshburn	4	24 hours – 29 minutes
Michael L. Gernhardt	4	23 hours – 16 minutes
C. Michael Foale	4	22 hours – 45 minutes
James S. Voss	4	22 hours – 35 minutes
Jessica U. Meir	3	21 hours – 44 minutes
James D. A. van Hoften	4	21 hours – 08 minutes
Tracy Caldwell Dyson	3	22 hours – 49 minutes
Harrison H. Schmitt	3	22 hours – 05 minutes
Garrett E. Reisman	3	21 hours – 12 minutes
Kathryn C. Thornton	3	21 hours – 11 minutes
Charlie M. Duke, Jr.	3	20 hours – 14 minutes
John W. Young	3	20 hours – 14 minutes
Steven K. Robinson	3	20 hours – 05 minutes
John B. Herrington	3	19 hours – 55 minutes
Peter J. K. Wisoff	3	19 hours – 53 minutes
Thomas D. Jones	3	19 hours – 48 minutes
Joseph M. Acaba	3	19 hours – 46 minutes
David R. Scott	3	19 hours – 35 minutes
Winston E. Scott	3	19 hours – 36 minutes
Franklin R. Chang-Diaz	3	19 hours – 30 minutes
Carlos I. Noriega	3	19 hours – 20 minutes
Carl E. Walz	3	18 hours – 55 minutes
James B. Irwin	3	18 hours – 35 minutes
Gregory J. Harbaugh	3	18 hours – 29 minutes
Nicholas J. M. Patrick	3	18 hours – 14 minutes
Pierre J. Thuot	3	17 hours – 42 minutes
Richard J. Hieb	3	17 hours – 42 minutes
Gerald P. Carr	3	15 hours – 49 minutes
Owen K. Garriott	3	13 hours – 43 minutes
Timothy L. Kopra	3	13 hours – 31 minutes
Edward G. Gibson	3	15 hours – 21 minutes
Alan L. Bean	3	10 hours – 26 minutes
Tyler N. Hague	3	19 hours – 56 minutes
Terry W. Virts	3	19 hours – 02 minutes
Scott J. Kelly	3	18 hours – 20 minutes
Stanley G. Love	2	15 hours – 23 minutes
Kjell N. Lindgren	2	15 hours – 04 minutes
Lee M. Morin	2	14 hours – 07 minutes
Gregory E. Chamitoff	2	13 hours – 43 minutes
William R. Pogue	2	13 hours – 34 minutes
Kayla Barron	2	13 hours – 26 minutes
Kenneth D. Bowersox	2	13 hours – 17 minutes
Donald R. Pettit	2	13 hours – 17 minutes

Barron, Kayla	2	13 hours - 26 minutes
Raja Chari	2	13 hours - 8 minutes
Anne C. McClain	2	13 hours – 8 minutes
B. Alvin Drew	2	12 hours – 48 minutes
G. Reid Wiseman	2	12 hours – 47 minutes
Charles Conrad, Jr.	4	12 hours – 28 minutes
Robert L. Satcher, Jr.	2	12 hours – 19 minutes
Sherwood C. Spring	2	12 hours – 13 minutes
Dale A. Gardner	2	12 hours – 42 minutes
Joseph M. Allen	2	12 hours – 14 minutes
Bruce McCandless, II	2	12 hours – 12 minutes
Robert L. Stewart	2	12 hours – 12 minutes
William F. Fisher	2	11 hours – 52 minutes
Daniel W. Bursch	2	11 hours – 46 minutes
Jack R. Lousma	2	11 hours – 02 minutes
Jerome Apt	2	10 hours – 49 minutes
Linda M. Godwin	2	10 hours – 14 minutes
George D. Nelson	2	10 hours – 06 minutes
Alan B. Shepard, Jr.	2	9 hours – 35 minutes
Edgar D. Mitchell	2	9 hours – 35 minutes
Edwin Aldrin	2	7 hours – 52 minutes
Jack D. Fischer	2	6 hours – 59 minutes
Michael R. Barratt	2	5 hours – 06 minutes
Susan J. Helms	1	8 hours – 55 minutes
Tamara E. Jernigan	1	7 hours – 55 minutes
Scott D. Tingle	1	7 hours – 24 minutes
Daniel C. Burbank	1	7 hours – 11 minutes
Chari, Raja	1	6 hours - 54 minutes
Carl J. Meade	1	6 hours – 51 minutes
Nicole P. Stott	1	6 hours – 39 minutes
Andrew S. W. Thomas	1	6 hours – 21 minutes
Paul W. Richards	1	6 hours – 21 minutes
Edward T. Lu	1	6 hours – 14 minutes
Michael R. Clifford	1	6 hours – 02 minutes
G. David Low	1	5 hours – 50 minutes
Frank L. Culbertson, Jr.	1	5 hours – 04 minutes
John L. Phillips	1	4 hours – 58 minutes
Jerry M. Linenger	1	4 hours – 59 minutes
Bernard A. Harris, Jr.	1	4 hours – 39 minutes
Mario Runco Jr.	1	4 hours – 28 minutes
Donald H. Peterson	1	4 hours – 17 minutes
David C. Leestma	1	3 hours – 29 minutes
Kathryn D. Sullivan	1	3 hours – 29 minutes
Joseph P. Kerwin	1	3 hours – 25 minutes
S. David Griggs	1	3 hours – 06 minutes
Neil A. Armstrong	1	2 hours – 32 minutes
Paul J. Weitz	1	2 hours– 11 minutes
Michael Collins	1	1 hour – 27 minutes
Thomas K. Mattingly	1	1 hour – 24 minutes

Ronald E. Evans	1	1 hour – 07 minutes
Russell L. Schweickart	1	0 hours – 46 minutes
Alfred M. Worden	1	0 hours – 41 minutes
Richard F. Gordon, Jr.	1	0 hours – 38 minutes
Edward H. White, II	1	0 hours – 36 minutes