

Unveiling the Stars: An Exploratory Study on NASA Astronauts

The exploration of NASA astronauts, a venture steeped in the allure of space exploration and human achievement, delves into a rich tapestry of individual stories and collective triumphs. While the stars above have always beckoned to humanity's sense of wonder, it is the individuals who have ventured beyond our atmosphere that make these dreams a reality.

In the realm of space exploration, talent, education, and diverse backgrounds are paramount. Every astronaut who has embarked on a journey to the cosmos is a testament to years of unwavering commitment and relentless pursuit of knowledge. Their experiences are as varied as the constellations in the night sky, with each astronaut bringing their unique set of skills, education, and expertise to the NASA family.

Yet, in the world of space exploration, it's not just about the individuals themselves; it's also about understanding the collective achievements and trends of NASA's astronaut corps. This is where a deep analysis of the provided dataset becomes pivotal.

And this is where you come in.

As an integral part of the team tasked with exploring this treasure trove of astronaut data, your role is crucial. You are the data virtuoso, the one who can transform raw information into meaningful insights that illuminate the demographics, careers, and accomplishments of NASA astronauts.

Using the latest tools and techniques in data analysis, you dissect the dataset, scrutinizing astronauts' backgrounds, experiences, and missions. You uncover patterns and trends that reveal the diverse tapestry of NASA's astronaut corps, from their educational journeys to their military service and their remarkable achievements in space.

As the project progresses, the excitement builds, and the knowledge you uncover becomes a source of inspiration. Researchers, space enthusiasts, and dreamers may not see the meticulous work behind the scenes, but they feel its impact in every chart, graph, and revelation.

In the world of astronaut analysis, you are the unsung hero, the one who helps unveil the extraordinary stories of those who have touched the stars. Your dedication to data and your ability to transform it into illuminating insights contribute to the ongoing saga of human exploration, making every astronaut's journey that much more extraordinary.

Module 1

Task 1: Exploring NASA's Data Universe.

Our analysis of NASA's dataset is a mission to unveil profound insights within the realm of space exploration. Beyond mere data analysis, it's a journey to harness the knowledge hidden in the stars. Through this exploration, we aim to uncover patterns that will guide future missions, enhancing NASA's cosmic endeavors. Every data point is a piece of the cosmic puzzle, fueling innovation and inspiring generations to reach for the stars. In these numbers and statistics, we find the roadmap to the next frontier of human exploration.

In [1]:

```
#--- Import Pandas ---  
import pandas as pd  
#--- Read in dataset ----
```

```
df = pd.read_csv('nasa.csv')
```

```
# ---WRITE YOUR CODE FOR TASK 1 ---
```

```
#--- Inspect data ---
```

```
pd.set_option('display.max_columns',None)
```

```
df
```

Out[1]:

	Name	Year	Group Number	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight Hours	Space Walks	Space Walks Hours	Missions	Death Date	Death Mission
0	Alan B. Shepard Jr.	1959	1	Decayed	18-11-1923	East Derby, NH	Male	US Naval Academy	Naval Sciences	Naval Science	Rear Admiral	US Navy (Retired)	2	216	2	9.0	Mercury 3, Apollo 14	21-07-1998	Natural causes
1	Alan G. Poindexter	1998	17	Decayed	05-11-1961	Pasadena, CA	Male	Georgia Institute of Technology; US Naval Postgraduate School	Aerospace Engineering	Aeronautical Engineering	Captain	US Navy	2	669	0	0.0	STS-122 (Atlantis), STS-131 (Discovery)	01-07-2012	Personal watercraft accident
2	Alan L. Bean	1963	3	Decayed	15-03-1932	Wheeler, TX	Male	University of Texas	Aeronautical Engineering	Aeronautical Engineering	Captain	US Navy (Retired)	2	1671	3	10.0	Apollo 12, Skylab	26-05-2018	Natural causes

	N a m e	Y e a r	G r o u p N u m	S t a t u s	B i r t h _ D a t e	B i r t h _ P l a c e	G e n d e r	A l m a _ M a t e r	U n d e r g r a d u a t e _ M a j o r	G r a d u a t e _ M a j o r	M i l i t a r y _ R a n k	M i l i t a r y _ B r a n c h	S p a c e _ F l i g h t s	S p a c e _ F l i g h t _ h r	S p a c e _ W a l k s	S p a c e _ W a l k s _ h r	M i s s i o n s	D e a t h _ D a t e	D e a t h _ M i s s i o n
	ea n							Te xa s		ee ri ng							yl ab 3		

3	Al ber t S ac c o Jr .	1963	3	Re tir ed	03-05-1949	Bo sto n, MA	Ma le	N or t h e a s t e r n U n i v e r s i t y ; MIT	Che mi ca l E n g i n e e r i n g	Ch e mi ca l E n g i n e e r i n g	Ca pta in	US Na vy (Re tire d)	1	381	0	0.0	S T S- 73 (Co lu m bi a)	Na N	Na N
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4	Al fre d M . Wo rd e n	1966	5	Re tir ed	07-02-1932	Ja ck so n, MI	Ma le	U S Mi li ta ry Ac a d e m y ; U n i v e r s i t y o f Mi ch i g a n	Milit ary Sci e nce	Aer o na ut ic al & Ast ro na ut ic al E n g i n e e r i n g	Co lon el	US Air For ce (Re tire d)	1	295	1	0.5	A po llo 15	Na N	Na N
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352	Will iam M . S	1984	10	Re tir ed	26-07-1949	O ak Ri dg e, TN	Ma le	U S Na va l Ac ad	Aero spac e En g i n e e r i n g	Me cha nic al E n g i n	Ca pta in	US Na vy (Re tire d)	4	3823	0	0.0	S T S- 37 (A tla nti	Na N	Na N
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N_a_m_e	Y_e_a_r	G_r_o_u_p_N_u_m	S_t_a_t_u_s	B_i_r_t_h_D_a_t_e	B_i_r_t_h_P_l_a_c_e	G_e_n_d_e_r	A_l_m_a_M_a_t_e_r	U_n_d_e_r_g_r_a_d_u_a_t_e_M_a_j_o_r	G_r_a_d_u_a_t_e_M_a_j_o_r	M_i_l_i_t_a_r_y_R_a_n_k	M_i_l_i_t_a_r_y_B_r_a_n_c_h	S_p_a_c_e_F_l_i_g_h_t_s	S_p_a_c_e_F_l_i_g_h_t_h_r	S_p_a_c_e_W_a_l_k_s	S_p_a_c_e_W_a_l_k_s_h_r	M_i_s_s_i_o_n_s	D_e_a_t_h_D_a_t_e	D_e_a_t_h_M_i_s_s_i_o_n
h e p h e r d							e m y; M I T		e e r i n g							s), S T S- 41 (D i s c o v e r y , S T S- 52 ...		

3 5 3	W i l l i a m R. P o g u e	1 9 6 6	5	R e t i r e d	23 - 01 - 19 30	O k e m a h , O K	M a l e	O k l a h o m a B a p t i s t U n i v e r s i t y; O k l a h o m a S t a t e U n i v e r s i t y	E d u c a t i o n	M a t h e m a t i c s	C o l o n e l	U S A i r F o r c e (R e t i r e d)	1	201 7	2	13. 0	S k y l a b 4	N a N	N a N
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3 5 4	W i l l i a m S. M c A r t h u r	1 9 9 0	3	M a n a g e m e n t	26 - 07 - 19 51	L a u r i n b u r g, N C	M a l e	U S M i l i t a r y A c a d e m y;	A p p l i e d S c i e n c e & E n g i n e e r i n g	A e r o s p a c e E n g i n e e r i n g	C o l o n e l	U S A r m y (R e t i r e d)	4	539 8	4	24. 0	S T S- 58 (C o l u m b i a), S	N a N	N a N
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N a m e	Y e a r	G r o u p N u m	St at us	Bi r t h _ D a t e	Bi r t h _ P l a c e	G e n d e r	Al m a _ M a t e r	Und er g r a d u a t e _ M a j o r	Gr a d u a t e _ M a j o r	Mi l i t a r y _ R a n k	Mi l i t a r y _ B r a n c h	Sp a c e _ F l i g h t s	Sp a c e _ F l i g h t _ h r	Sp a c e _ W a l k s	Sp a c e _ W a l k s _ h r	M i s s i o n s	D e a t h _ D a t e	De a t h _ M i s s i o n	
Jr.							Ge or gi a In sti tut e of Te ch ...										T S- 74 (A tla nti s), S T S- 92 (..		
3 5 5	Win ston E. S cott	1 9 9 2	14	Ret ired	06 - 08 - 19 50	M ia mi , F L	M a l e	Fl ori da St ate U ni ve rsi ty; U S Na va l Po stg ra du at. ...	Musi c	Aer o na utic al En gin eeri ng	Ca pta in	US Na vy (Re tire d)	2	590	3	19. 0	S T S- 72 (En dea vor), S T S- 87 (Col um bi a)	Na N	Na N
3 5 6	Y von ne D. Cag le	1 9 9 6	16	Man age ment	24 - 04 - 19 59	W es t Po int , N Y	F e ma l e	Sa n Fr an cis co St ate U ni ve rsi ty	Bioc hemi stry	Aer o na utic al En gin eeri ng	Col on el	US Air For ce	0	0	0	0.0	S T S- 72 (En dea vor), S T S- 87 (Col um b	Na N	Na N

Name	Year	GroupNum	Status	Birth_Date	Birth_Place	Gender	Alma_Mater	Undergraduate_Major	Graduate_Major	Military_Rank	Military_Branch	Space_Flights	Space_Flight_hr	Space_Walks	Space_Walks_hr	Missions	Death_Date	Death_Mission
																bi		
																a)		

357 rows × 19 columns

Task 2: Exploring Data Completeness.

In the midst of your data exploration, armed with the NASA astronaut dataset, you've arrived at a crucial juncture. You're now delving into the realm of data quality, seeking to understand the integrity of the information you're working with. With a few lines of code, you've calculated the number of missing values for each column in the dataset, and the results are illuminating.

In [2]:

```
# --- WRITE YOUR CODE FOR TASK 2 ---
null_values = df.isnull().sum()
null_values
#--- Inspect data ---
```

Out[2]:

```
Name      0
Year      0
GroupNum  0
Status    0
Birth_Date 0
Birth_Place 0
Gender    0
Alma_Mater 1
Undergraduate_Major 0
Graduate_Major 0
Military_Rank 0
Military_Branch 0
Space_Flights 0
Space_Flight_hr 0
Space_Walks 0
Space_Walks_hr 0
Missions  0
Death_Date 303
Death_Mission 309
dtype: int64
```

Task 3: Data Refinement for NASA Astronaut Data.

In your ongoing journey through the NASA astronaut dataset, you've embarked on a quest for data integrity and precision. The code you've executed represents a pivotal moment in this

endeavor, where you're not just analyzing data but also sculpting it to reveal the true narrative of these space pioneers.

In [3]:

```
#--- WRITE YOUR CODE FOR TASK 3 ---
#df= ...
df.dropna(subset=['Alma_Mater'],inplace=True)
filtered_index = df[df['Death_Mission'].isnull() & ~df['Death_Date'].isnull()].index
df.drop(filtered_index,inplace = True)
df['Birth_Date']=pd.to_datetime(df['Birth_Date'],dayfirst=True)
df['Death_Date']=pd.to_datetime(df['Death_Date'],dayfirst=True)
#--- Inspect data ---
df
```

Out[3]:

	Name	Year	Group Number	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h_r	Space Walks	Missions	Death Date	Death Mission	
0	Alan B. Shepard Jr.	1919	1	Deceased	1923-11-18	East Derby, NH	Male	US Naval Academy	Naval Sciences	Naval Science	Rear Admiral	US Navy (Retired)	2	216	2	9.0	Mercury 3, Apollo 14	1968-07-21	Natural causes
1	Alan G. Ponder	1919	17	Deceased	1961-11-05	Pasadena, CA	Male	Georgia Institute of Technology; US Naval Postgraduate School	Aerospace Engineering	Aeronautical Engineering	Captain	US Navy	2	669	0	0.0	STS-122 (Atlantis), STS-131 (Discovery)	2012-07-01	Personal watercraft accident

[illegible]

N a m e	Y e a r	G r o u p N u m	S t a t u s	B i r t h _ D a t e	B i r t h _ P l a c e	G e n d e r	A l m a _ M a t e r	U n d e r g r a d u a t e _ M a j o r	G r a d u a t e _ M a j o r	M i l i t a r y _ R a n k	M i l i t a r y _ B r a n c h	S p a c e _ F l i g h t s	S p a c e _ F l i g h t _ h r	S p a c e _ W a l k s	S p a c e _ W a l k s _ h r	M i s s i o n s	D e a t h _ D a t e	D e a t h _ M i s s i o n	
352	William M. Shepherd	1984	10	Retired	1949-07-26	Oak Ridge, TN	Male	US Naval Academy; MIT	Aerospace Engineering	Mechanical Engineering	Captain	US Navy (Retired)	4	3823	0	0.0	STS-37 (Atlantis), STS-41 (Discovery), STS-52 ...	NaT	NaN
353	William R. Pogue	1966	5	Retired	1930-01-23	Okechobee, OK	Male	Oklahoma Baptist University; Oklahoma State Univ..	Education	Mathematics	Colonel	US Air Force (Retired)	1	2017	2	13.0	Skylab 4	NaT	NaN
354	William	19	3	Manager	1951-	Laurin	Male	US Military	Applied Science	Aerospace	Colonel	US Army	4	5398	4	24.0	STS-	NaT	NaN

N_a_m_e	Y_e_a_r	G_r_o_u_p_N_u_m	S_t_a_t_u_s	B_i_r_t_h_D_a_t_e	B_i_r_t_h_P_l_a_c_e	G_e_n_d_e_r	A_l_m_a_M_a_t_e_r	U_n_d_e_r_g_r_a_d_u_a_t_e_M_a_j_o_r	G_r_a_d_u_a_t_e_M_a_j_o_r	M_i_l_i_t_a_r_y_R_a_n_k	M_i_l_i_t_a_r_y_B_r_a_n_c_h	S_p_a_c_e_F_l_i_g_h_t_s	S_p_a_c_e_F_l_i_g_h_t_h_r	S_p_a_c_e_W_a_l_k_s	S_p_a_c_e_W_a_l_k_s_h_r	M_i_s_s_i_o_n_s	D_e_a_t_h_D_a_t_e	D_e_a_t_h_M_i_s_s_i_o_n
m S. M c A r t h u r J r .	90		e m e n t	07 - 26	bu rg, N C	l e	l i t a r y A c a d e m y; G e o r g i a I n s t i t u t e o f T e c h ...	n c e & E n g i n e e r i n g	E n g i n e e r i n g		(R e t i r e d)					58 (C o l u m b i a), S T S-74 (A t l a n t i s), S T S-92 (...)		

355	W i n s t o n E. S c o t t	19992	14	R e t i r e d	1950 - 08 - 06	M i a m i , F L	M a l e	F l o r i d a S t a t e U n i v e r s i t y; U S N a v a l P o s t g r a d u a t. ...	M u s i c	A e r o n a u t i c a l E n g i n e e r i n g	C a p t a i n	U S N a v y (R e t i r e d)	2	590	3	19.0	S T S-72 (E n d e a v o r), S T S-87 (C o l u m b i a)	N a T	N a N
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356	Y v o n n e D . C a	19996	16	M a n a g e m e n t	1959 - 04 - 24	W e s t P o i n t , N Y	F e m a l e	S a n F r a n c i s c o S t a t e U n i	B i o c h e m i s t r y	A e r o n a u t i c a l E n g i n e e r i n g	C o l o n e l	U S A i r F o r c e	0	0	0	0.0	S T S-72 (E n d e a v o r), S	N a T	N a N
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N a m e	Y e a r	G r o u p N u m	S t a t u s	B i r t h _ D a t e	B i r t h _ P l a c e	G e n d e r	A l m a _ M a t e r	U n d e r g r a d u a t e _ M a j o r	G r a d u a t e _ M a j o r	M i l i t a r y _ R a n k	M i l i t a r y _ B r a n c h	S p a c e _ F l i g h t s	S p a c e _ F l i g h t _ h _ r	S p a c e _ W a l k s	S p a c e _ W a l k s _ h _ r	M i s s i o n s	D e a t h _ D a t e	D e a t h _ M i s s i o n	
gle							ve rsi ty										T S- 87 (C ol u m bi a)		

350 rows × 19 columns

Task 4: Preparing Data for SQL Analysis.

In the midst of your data journey through the NASA astronaut dataset, you've arrived at a crucial juncture where your focus shifts to data export and preparation for a new phase in your analysis.

The destination is clear: a CSV file named 'astronauts.csv' that will serve as the foundation for your SQL exploration. This export step ensures that the data you've curated and cleaned is ready to be loaded into a relational database, where you can perform more intricate queries and derive deeper insights.

In [4]:

```
# ...WRITE YOUR CODE FOR TASK 4 ...
#export the cleaned data
df.to_csv('astronauts.csv',index = False)
#--- Inspect data ---
```

Task 5: Data Download, Import, and Database Connection.

In [5]:

```
# -- Load the sql extention ---
%load_ext sql

# --- Load your mysql db using credentials from the "DB" area ---
#%sql mysql+pymysql://<user>:<password>@localhost/<db_name>
%sql mysql+pymysql://bf2aa06a:Cab#22se@localhost/bf2aa06a
```

Out[5]:

```
'Connected: bf2aa06a@bf2aa06a'
```

Module 2

Task 1: Journeying Through Astronaut Profiles.

We embark on an interstellar adventure, peering into the captivating lives of NASA's space explorers. Each line of code unveils tales of cosmic bravery, where data becomes the canvas for astronauts' remarkable journeys.

As we execute this query, we're driven by the desire to inspire, inform, and honor their journeys. Each row of data represents a chapter in the grand story of space exploration, and by querying it, we're paying homage to their remarkable endeavors. We're doing this query to shed light on the heroes of the cosmic frontier and to share their awe-inspiring narratives with the world.

In [6]:

```
%%sql
SELECT * FROM astronauts;
* mysql+pymysql://bf2aa06a:***@localhost/bf2aa06a
350 rows affected.
```

Out[6]:

Name	Year	Group Number	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight Hours	Space Walks	Missions	Death Date	Death Mission	
Alan B. Shepard Jr.	1959	1	Deceased	1923-11-18	Easterry, NH	Male	US Naval Academy	Naval Sciences	Naval Science	Rear Admiral	US Navy (Retired)	2	216	2	9.0	Mercury 3, Apollo 14	1968-07-21	Natural causes
Alan G. Poindexter	1959	17	Deceased	1961-11-05	Pasadena, CA	Male	Georgia Institute of Technology ; US Naval Postgraduate School	Aerospace Engineering	Aeronautical Engineering	Captain	US Navy	2	669	0	0.0	STS-122 (Atlantis), STS-131 (Discovery)	2012-07-01	Personal watercraft accident
Alan L. Bean	1963	3	Deceased	1932-03-15	Wheeler, TX	Male	University of Texas	Aeronautical Engineering	Aeronautical Engineering	Captain	US Navy (Retired)	2	1671	3	10.0	Apollo 12, Skylab 3	2018-05-26	Natural causes

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Albert Sacco Jr.	1963	3	Retired	1949-05-03	Boston, MA	Male	Northwestern University; MIT	Chemical Engineering	Chemical Engineering	Captain	US Navy (Retired)	1	381	0	0.0	STS-73 (Columbia)		
Alfred M. Worden	1966	5	Retired	1932-02-07	Jackson, MI	Male	US Military Academy; University of Michigan	Military Science	Aeronautical & Astronautical Engineering	Colonel	US Air Force (Retired)	1	295	1	0.5	Apollo 15		
Alvin B. Drew Jr.	2000	18	Active	1962-11-05	Washington, DC	Male	US Air Force Academy; Embury-Riddle Aeronautical University	Physics & Astronautical Engineering	Aerospace Science; Political Science	Colonel	US Air Force	2	613	2	13.0	STS-118 (Endeavour), STS-133 (Discovery)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Andrew J. Feustel	2000	18	Active	1965-08-25	Lancaster, PA	Male	Purdue University; Queen's University-Canada	Solid Earth Sciences	Geophysics; Seismology	Colonel	US Air Force	2	687	6	42.0	STS-125 (Atlantis), STS-134 (Endeavour)		
Andrew M. Allen	1987	12	Retired	1955-08-04	Philadelphia, PA	Male	Villanova University; University of Florida	Mechanical Engineering	Business Administration	Lieutenant Colonel	US Marine Corps (Retired)	3	906	0	0.0	STS-46 (Atlantis), STS-62 (Columbia), STS-75 (Columbia)		
Andrew S. Thomas	1992	14	Management	1951-12-18	Adelaide, Australia	Male	University of Adelaide	Mechanical Engineering	Mechanical Engineering	Lieutenant Colonel	US Marine Corps (Retired)	4	4257	1	6.0	STS-77 (Endeavour), STS-89/91 (Endeavour/Discovery), STS-102 (Discovery),		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
																STS-114 (Discovery)		
Anna L. Fisher	1978	8	Managed	1949-08-24	New York, NY	Female	University of California - Los Angeles	Chemistry	Chemistry; Medicine	Lieutenant Colonel	US Marine Corps (Retired)	1	191	0	0.0	STS-51-A (Discovery)		
Anthony W. England	1967	6	Retired	1942-05-15	Indianapolis, IN	Male	MIT	Geology	Geology; Geophysics	Lieutenant Colonel	US Marine Corps (Retired)	1	190	0	0.0	STS-51-F (Challenger)		
Barbara R. Morgan	1998	17	Retired	1951-11-28	Fresno, CA	Female	Stanford University	Human Biology	Geology; Geophysics	Lieutenant Colonel	US Marine Corps (Retired)	1	305	0	0.0	STS-118 (Endeavour)		
Barry E. Wilmore	2000	18	Active	1962-12-29	Murfreesboro, TN	Male	Tennessee Technological University; Un	Electrical Engineering	Electrical Engineering; Aviation Systems	Captain	US Navy	2	4272	4	25.0	STS-129 (Atlantis), ISS-41/42 (Soyuz)		

Name	Year	Group Number	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight Hours	Space Walks	Space Walk Hours	Missions	Death Date	Death Mission
Brent W. Jet	1999-02	14	Retired	1958-10-05	Pontiac, MI	Male	U S Naval Academy; U S Naval Postgraduate School	Aerospace Engineering	Aeronautical Engineering	Captain	US Navy (Retired)	4	1002	0	0.0	umbria), STS-71 (Atlantis), STS-89 (Endeavour)		
																STS-72 (Endeavour), STS-81 (Atlantis), STS-97 (Endeavour), STS-115 (Atlantis)		
																STS-9 (Columbia), STS-61-B (Atlantis), STS-28 (Columbia)		
Brewster H. Shaw Jr.	1978	8	Retired	1945-05-16	Cass City, MI	Male	University of Wisconsin	Engineering Mechanics	Engineering Mechanics	Colonel	US Air Force (Retired)	3	533	0	0.0	STS-45 (Atlantis), STS		
Brian Duffy	1985	11	Retired	1953-06-20	Boston, MA	Male	U S Air Force	Mathematics	Systems Management	Colonel	US Air Force (Re	4	977	0	0.0	STS-45 (Atlantis), STS		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Brian T. O'Leary	1967	6	Deceased	1940-01-27	Boston, MA	Male	Academy; University of Southern California		Engineering		Retired					-57 (Endeavour), STS-72 (Endeavour), STS-92 (Discovery)		
							Williams College; Georgetown University of California - Berkeley	Physics	Astronomy	Colonel	US Air Force (Retired)	0	0	0	0.0	STS-45 (Atlantis), STS-57 (Endeavour), STS-72 (Endeavour), STS-92 (Discovery)	2011-07-28	Due to cancer
Bruce E. Melnick	1987	12	Retired	1949-12-05	New York, NY	Male	US Coast Guard Academy	Engineering	Aeronautical Systems	Commander	US Coast Guard (Retired)	2	311	0	0.0	STS-41 (Discovery), STS-49 (Endeavour)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
University of Michigan																		
Buzz Aldrin	1963	3	Retired	1930-01-20	Montclair, NJ	Male	US Military Academy; MIT	Mechanical Engineering	Astronautics	Colonel	US Air Force (Retired)	2	289	2	8.0	Gemini 12, Apollo 11		
NASA Johnson Space Center																		
Byron K. Lichtenberg	1963	3	Retired	1948-02-19	Stroudsburg, PA	Male	Brown University; MIT	Aerospace Engineering	Mechanical Engineering; Bio medical Engineering	Colonel	US Air Force (Retired)	2	461	0	0.0	STS-9 (Columbia), STS-45 (Atlantis)		
NASA Kennedy Space Center																		
C. Gordon Fullerton	1969	7	Retired	1936-10-11	Rochester, NY	Male	California Institute of Technology	Mechanical Engineering	Mechanical Engineering	Colonel	US Air Force (Retired)	2	382	0	0.0	STS-3 (Columbia), STS 51-F (Challenger)		
NASA Marshall Space Flight Center																		
C. Michael Foale	1987	12	Active	1957-01-06	Louth, England	Male	Cambridge University	Physics	Laboratory Astrophysics	Colonel	US Air Force (Retired)	6	8970	4	22.0	STS-45 (Atlantis), STS-56 (Discovery)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Carl E. Walz	19990	13	Retired	1955-09-06	Cleveland, OH	Male	Kent State University; John Carroll University	Physics	Solid State Physics	Colonel	US Air Force	4	5533	3	19.0	ry), STS-63 (Discovery), STS-84/86 (Atlantis), STS-103 (Discovery), ISS-08 (Soyuz)		
																STS-51 (Discovery), STS-65 (Columbia), STS-79 (Atlantis), STS-108/111 (Endeavour)		
Carl J. Meade	1985	11	Retired	1950-11-16	Chanute Air Force Base, IL	Male	University of Texas; California	Electronics Engineering	Electronics Engineering	Colonel	US Air Force (Retired)	3	712	1	6.0	STS-38 (Atlantis), STS-50 (Columbia), STS		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Carlos I. Noriega	1995	15	Retired	1959-10-08	Lima, Peru	Male	University of Southern California ; US Naval Postgraduate School	Computer Science	Computer Science; Space Systems Operations	Lieutenant Colonel	US Marine Corps (Retired)	2	481	3	19.0	STS-84 (Atlantis), STS-97 (Endeavour)		
Catherine G. Coleman	1992	14	Active	1960-12-14	Charleston, SC	Female	MIT; University of Massachusetts	Chemistry	Polymer Science & Engineering	Colonel	US Air Force (Retired)	3	4324	0	0.0	STS-73 (Columbia), STS-93 (Columbia), ISS-26/27 (Soyuz)		
Charles	1993	3	Decceased	1931-	Dalyon,	Male	Texas	Electrical Engineering	Polymer	Captain	US Air	0	0	0	0.0	STS-73 (Columbia)	1966-	T-38 Tal

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
A. Basset II	63		seced	12-30	OH	Male	Technological College	Engineering	Science & Engineering		Force					umbria), STS-93 (Columbia), ISS-26/27 (Soyuz)	02-28	on jet aircraft
Charles Conrad Jr.	1962	2	Deceased	1930-05-02	Philadelphia, PA	Male	Princeton University	Aeronautical Engineering	Polymer Science & Engineering	Captain	US Navy (Retired)	4	1179	4	12.0	Gemini 5, Gemini 11, Apollo 12, Skylab 2	1999-07-08	Motorcycle accident
Charles D. Gemar	1985	11	Retired	1955-08-04	Yankton, SD	Male	US Military Academy	Engineering	Polymer Science & Engineering	Lieutenant Colonel	US Army	3	581	0	0.0	STS-38 (Atlantis), STS-48 (Discovery), STS-62 (Columbia)		
Charles D. Walker	1985	11	Retired	1948-08-29	Bedford, IN	Male	Purdue University	Aeronautical & Astronautical Engineering	Polymer Science & Engineering	Lieutenant Colonel	US Army	3	477	0	0.0	STS 41-D (Discovery), STS 51-D (Discovery), STS 61-B (Atl		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
antis)																		
Charles E. Bradley Jr.	1992	14	Deceased	1951-08-12	Pinehurst, NC	Male	University of North Carolina at Chapel Hill; Duke University	Aeronautical & Astronautical Engineering	Medicine	Captain	US Navy	1	405	0	0.0	STS-78 (Columbia)	2006-07-23	Natural causes
Charles F. Bolden Jr.	1980	9	Management	1946-08-19	Columbia, SC	Male	US Naval Academy; University of Southern California	Electrical Science	Systems Management	Major General	US Marine Corps (Retired)	4	680	0	0.0	STS-61C (Columbia), STS-31 (Discovery), STS-45 (Atlantis), STS-60 (Discovery)		
Charles J. Camarda	1996	16	Management	1952-05-08	Queens, NY	Male	Polytechnic Institute of Brooklyn	Aerospace Engineering	Engineering Science; Aerospace	Major General	US Marine Corps (Retired)	1	333	0	0.0	STS-114 (Discovery)		

Name	Year	Group Number	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight Hours	Space Walks	Space Walks Hours	Missions	Death Date	Death Mission
Charles J. Precourt	19990	13	Retired	1955-06-29	Waltham, MA	Male	Brooklyn; Georgetown University; Virginia Polytechnic Institute		ace Engineering									
							US Air Force Academy; Golden Gate University; US Naval War College	Aeronautical Engineering	Engineering Management; Strategic Studies	Colonel	US Air Force (Retired)	4	950	0	0.0	STS-55 (Columbia), STS-71 (Atlantis), STS-84 (Atlantis), STS-91 (Discovery)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
College																		
Charles Lacy Veach	1984	10	Deceased	1944-09-18	Chicago, IL	Male	US Air Force Academy	Engineering Management	Engineering Management; Strategic Studies	Colonel	US Air Force (Retired)	2	436	0	0.0	STS-39 (Discovery), STS-52 (Columbia)	2012-07-01	Due to cancer
Charles M. Duke Jr.	1966	5	Retired	1935-10-03	Charlotte, NC	Male	US Naval Academy; MIT	Naval Sciences	Aeronautics	Brigadier General	US Air Force (Retired)	1	265	3	20.0	Apollo 16		
Charles O. Hobaugh	1996	16	Retired	1961-11-05	Bar Harbor, ME	Male	US Naval Academy	Aerospace Engineering	Aeronautics	Colonel	US Marine Corps (Retired)	3	873	0	0.0	STS-104 (Atlantis), STS-118 (Endeavour), ST-129 (Atlantis)		
Christopher J. Cassidy	2004	19	Active	1970-01-04	Salmon, MA	Male	US Naval Academy; MIT	Mathematics	Ocean Engineering	Commander	US Navy	1	4376	6	31.0	STS-127 (Endeavour); ISS-35/36 (Soyuz)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Christopher J. Ferguson	19998	17	Retired	1961-09-01	Philadelphia, PA	Male	Drexel University; US Naval Postgraduate School	Mechanical Engineering	Aeronautical Engineering	Captain	US Navy (Retired)	3	970	0	0.0	STS-115 (Atlantis), STS-126 (Endeavour), STS-135 (Atlantis)		
Christopher J. Loria	19996	16	Retired	1960-07-09	Belmont, MA	Male	US Naval Academy; Harvard University	Engineering	Public Administration	Colonel	US Marine Corps (Retired)	0	0	0	0.0	STS-115 (Atlantis), STS-126 (Endeavour), STS-135 (Atlantis)		
Clayton C. Anderson	19998	17	Retired	1959-02-23	Omaha, NE	Male	Hastings College; Iowa State University	Physics	Aerospace Engineering	Colonel	US Marine Corps (Retired)	2	4005	6	38.0	STS-117/120 (Atlantis/Discovery), STS-131 (Discovery)		
Clyton C.	19963	3	Deceased	1932-09-09	Mobile, AL	Male	Auburn University	Mechanical Engineering	Aerospace Engineering	Major	US Marine	0	0	0	0.0	STS-117/120	1967-10	T-38 jet train

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
William S Jr.			se d	- 26			ive rsi ty	neeri ng	gin eeri ng		Cor ps					(Atl antis /Dis cove ry), STS -131 (Dis cove ry)	- 05	ner cra sh
Curtis L. Brown Jr.	1987	12	Re tir ed	1956-03-11	Elizabeth town, NC	Male	US Air Force Academy	Electrical Engineering	Aerospace Engineering	Colonel	US Air Force (Retired)	6	1383	0	0.0	STS-47 (Endeavour), STS-66 (Atlantis), STS-77 (Endeavour), STS-85 (Discovery), STS-95 (Discovery), STS-103 (Discovery)		
Dale A. Gardner	1978	8	Re tir ed	1948-11-08	Fairmont, MN	Male	University of Illinois	Engineering Physics	Aerospace Engineering	Captain	US Navy (Retired)	2	336	2	12.0	STS-8 (Challenger), STS-51-A (Discovery)		
Daniel	19	8	Re tir ed	1943-	Watertown	Male	Univer si	Mat hem atics	Aer osp ace	Cap ta in	US Na vy	4	789	0	0.0	STS-8 (Cha		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
C. Brandenstein	78			01 - 17	n, WI	le	ty of Wisconsin	& Physics	Engineering		(Retired)					llen ger), STS 51-G (Discovery), STS -32 (Columbia), STS -49 (Endeavour)		
Daniel C. Burbank	19996	16	Active	1961 - 07 - 27	Manchester, CT	Male	US Coast Guard Academy; Embury-Riddle Aeronaautical University	Electrical Engineering	Aeronautical Science	Captain	US Coast Guard (Retired)	3	4512	1	7.0	STS -106 (Atlantis), STS -115 (Atlantis), ISS-29/30 (Soyuz)		
Daniel M. Tani	19996	16	Retired	1961 - 02 - 01	Ridley Park, PA	Male	MIT	Mechanical Engineering	Mechanical Engineering	Captain	US Coast Guard (Retired)	2	3162	6	39.0	STS -108 (Endeavour), STS -120/122 (Dis		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Daniel T. Barry	1992	14	Retired	1953-12-30	Norwalk, CT	Male	Cornell University; Princeton University; University of Miami	Electrical Engineering	Electrical Engineering; Computer Science; Medicine	Captain	US Coast Guard (Retired)	3	733	4	26.0	STS-72 (Endeavour), STS-96 (Discovery), STS-105 (Discovery)		
Daniel W. Bursch	1990	13	Retired	1957-07-25	Bristol, PA	Male	US Naval Academy; US Naval Postgraduate School	Physics	Engineering Science	Captain	US Navy (Retired)	4	5446	2	12.0	STS-51 (Discovery), STS-68 (Endeavour), STS-77 (Endeavour), STS-108/111 (Endeavour)		
David A.	1990	13	Retired	1956-08	Indianapolis	Male	Purdue University	Electrical Engineering	Medicine	Captain	US Navy (Re	3	4044	7	41.0	STS-58 (Columbia).		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h	Space Walks	Space Walks_h	Missions	Death Date	Death Mission	
Wolf				-23	s, IN		rsity; Indiana University				tired)						STS -86/89 (Atlantis/Endeavor), STS -112 (Atlantis), STS -127 (Endeavor)		
David C. Hillmers	1980	9	Retired	1950-01-28	Cinton, IA	Male	Cornell University; US Naval Postgraduate School	Mathematics	Electrical Engineering	Colonel	US Marine Corps (Retired)	4	494	0	0.0		ST 51-J (Atlantis), STS -26 (Discovery), STS -36 (Atlantis), STS -42 (Discovery)		
David C. Lester	1980	9	Management	1949-05-06	Muskegon, MI	Male	US Naval Academy; US Naval Postgraduate	Aeronautical Engineering	Aeronautical Engineering	Captain	US Navy (Retired)	3	532	1	3.0		STS 41-G (Challenger), STS -28 (Columbia), STS -45 (Atlantis)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
ate School																		
College of William & Mary; Eastern Virginia Medical School																		
David M. Brown	19996	16	Deceased	1956-04-16	Arlington, VA	Male		Biology	Medicine	Captain	US Navy	1	382	0	0.0	STS-107 (Columbia)	2003-02-01	STS-107 (Columbia)
US Naval Academy																		
David M. Walker	1978	8	Deceased	1944-05-20	Columbus, GA	Male		Naval Sciences	Medicine	Captain	US Navy (Retired)	4	724	0	0.0	STS-51-A (Discovery), STS-30 (Antares), STS-53 (Discovery), STS-69 (Endeavour)	2001-04-23	Plane crash
US Military																		
David R. Scott	1963	3	Retired	1932-06-06	San Antonio, TX	Male		Naval Sciences	Aeronautics & Astron	Colonel	US Air Force (Re	3	546	4	19.0	Gemini 8, Apollo 9,		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h	Space Walks	Space Walks_h	Missions	Death Date	Death Mission
Dominic A. Antonelli	2000	18	Active	1967-08-23	Detroit, MI	Male	MIT; University of Washington	Aeronautics & Astronautics	Aeronautics & Astronautics	Commander	US Navy	2	579	0	0.0	Apollo 15 STS-119 (Discovery), STS-132 (Atlantis)		
Dominic L. Gorie	1995	15	Retired	1957-05-02	Lake Charles, LA	Male	US Naval Academy; University of Tennessee	Ocean Engineering	Aviation Systems	Captain	US Navy (Retired)	4	1167	0	0.0	STS-91 (Discovery), STS-99 (Endeavour), STS-123 (Endeavour), STS-108 (Endeavour)		
Dan L. Lind	1966	5	Retired	1930-05-18	Midvale, UT	Male	University of Utah; University of California	Physics	Nuclear Physics	Captain	US Navy (Retired)	1	168	0	0.0	STS 51-B (Challenger)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
nia - Berkeley																		
Donald A. Thomas	1990	13	Retired	1955-05-06	Cleveland, OH	Male	Case Western Reserve University; Cornell University	Physics	Materials Science	Captain	US Navy (Retired)	4	1040	0	0.0	STS-65 (Columbia), STS-70 (Discovery), STS-83 (Columbia), STS-94 (Columbia)		
Donald E. Williams	1978	8	Retired	1958-02-13	Lafayette, IN	Male	Purdue University	Mechanical Engineering	Materials Science	Captain	US Navy (Retired)	2	287	0	0.0	STS-51-D (Discovery), STS-34 (Atlantis)		
Donald H. Peterson	1969	7	Retired	1933-10-22	Winona, MS	Male	US Military Academy; US Air Force Institute	Mechanical Engineering	Nuclear Engineering	Colonel	US Air Force (Retired)	1	120	1	4.0	STS-6 (Challenger)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Dorothy M. Metcalf-Lindenberger	2004	19	Active	1975-05-02	Colorado Springs, CO	Female	Whitman College	Geology	Astronautics	Colonel	US Air Force (Retired)	1	362	0	0.0	STS-131 (Discovery)		
Douglas G. Huie	2000	18	Active	1966-10-21	Endicott, NY	Male	Tulane University	Civil Engineering	Astronautics	Colonel	US Marine Corps	2	683	0	0.0	STS-127 (Endeavour), STS-135 (Atlantis)		
Douglas H. Wheelock	1999	17	Active	1960-05-05	Binghamton, NY	Male	US Military Academy; Georgia Institute of Technology	Applied Science & Engineering	Aerospace Engineering	Colonel	US Army	2	4281	6	43.0	STS-120 (Discovery), ISS-24/25 (Soyuz)		
Duane E. Gravelline	1965	4	Retired	1931-03-02	Newport, VT	Male	University of Vermont	Applied Science & Engineering	Public Health; Medicine	Colonel	US Army	0	0	0	0.0	STS-120 (Discovery), ISS-24/25		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Duan G. Carey	1996	16	Retired	1957-04-30	St. Paul, MN	Male	Johns Hopkins University									(Soyuz)		
							University of Minnesota - Minneapolis	Aerospace Engineering & Mechanics	Aerospace Engineering	Lieutenant Colonel	US Air Force (Retired)	1	262	0	0.0	STS-109 (Columbia)		
E. Michael Fincke	1996	16	Active	1967-03-14	Pittsburgh, PA	Male	MIT; Stanford University; University of Houston - Clear Lake	Aeronautics & Astronautics; Earth, Atmospheric & Planetary Sciences	Aeronautics & Astronautics; Physical Sciences	Colonel	US Air Force	3	9159	9	48.0	ISS-09 (Soyuz), ISS-18 (Soyuz), STS-134 (Endeavour)		
Edgar D. Mitchell	1966	5	Retired	1930-09	Hefford, TX	Male	Carnegie-Mellon	Industrial Management	Aeronautical Engineering	Captain	US Navy (Retired)	1	216	2	9.0	Apollo 14		

Name	Year	Group Number	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight Hours	Space Walks	Space Walks Hours	Missions	Death Date	Death Mission
Michael				- 17			ellon University; U S Naval Postgraduate School; MIT		engineering; Aeronautics & Astronautics		tired)							
Edward G. Gibson	1965	4	Retired	1936-11-08	Buffalo, NY	Male	University of Rochester; California Institute of Technology	Engineering	Engineering	Captain	US Navy (Retired)	1	2017	3	15.0	Skylab 4		
Edward G. Givens Jr.	1966	5	Deceased	1930-01-05	Quannah, TX	Male	US Naval Academy	Naval Sciences	Engineering	Major	US Air Force	0	0	0	0.0	Skylab 4	1967-06-06	Automobile accident
Edward H.	1962	2	Deceased	1930-11	San Antonio	Male	US Military	Naval Sciences	Aeronautical	Lieutenant	US Air Force	2	97	1	0.5	Gemini 4,	1967-01	Apollo 1

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
White II			sed	- 14	io, TX		ary Academy; University of Michigan		Engineering	Colonel							Apollo 1	- 27
Edward T. Lu	19995	15	Retired	1963-07-01	Springfield, MA	Male	Cornell University; Stanford University	Electrical Engineering	Applied Physics	Lieutenant Colonel	US Air Force	3	4962	1	6.0			STS-84 (Atlantis), STS-106 (Atlantis), ISS-07 (Soyuz)
Eileen M. Collins	19990	13	Retired	1959-11-19	Elmira, NY	Female	Syracuse University; Stanford University; Webster University	Mathematics & Economics	Operations Research; Space Systems Management	Colonel	US Air Force (Retired)	4	890	0	0.0			STS-63 (Discovery), STS-84 (Atlantis), STS-114 (Columbia), STS-93 (Discovery)

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Ellen Ochoa	1990	13	Managed	1958-05-10	Los Angeles, CA	Female	San Diego State University; Stanford University	Physics	Electrical Engineering	Colonel	US Air Force (Retired)	4	979	0	0.0	STS-56 (Discovery), STS-66 (Atlantis), STS-96 (Discovery), STS-110 (Atlantis)		
Ellen S. Barker	1984	10	Retired	1953-04-27	Fayetteville, NC	Female	State University of New York-Buffalo; Cornell University; University of Texas	Geology	Medicine; Public Health	Colonel	US Air Force (Retired)	3	686	0	0.0	STS-34 (Atlantis), STS-50 (Columbia), STS-71 (Atlantis)		
Elliot M. See Jr.	1962	2	Declassified	1927-07-23	Dallas, TX	Male	US Merchant	Geology	Engineering	Colonel	US Air Force (Re	0	0	0	0.0	STS-34 (Atlantis), STS	1966-02-28	T-38 jet aircraft

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flights_r	Space Walks	Space Walks_r	Missions	Death Date	Death Mission
Ellison S. Onizuka	1978	8	Deceased	1946-06-24	Kealaekua, HI	Male	University of Colorado	Aerospace Engineering	Aerospace Engineering	Lieutenant Colonel	US Air Force	2	73	0	0.0	STS-51-L (Discovery), STS-51-L (Challenger)	1986-01-28	STS-51-L (Challenger)
Eric A. Boe	2000	18	Active	1964-10-01	Miami, FL	Male	US Air Force Academy; Georgia Institute of Technology	Aeronautical Engineering	Electrical Engineering	Colonel	US Air Force	2	687	0	0.0	STS-126 (Endeavour), STS-133 (Discovery)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flights	Space Walks	Space Walks	Missions	Death Date	Death Mission
Eugene A. Cernan	1963	3	Deceased	1934-03-14	Chicago, IL	Male	Purdue University; US Naval Postgraduate School	Electrical Engineering	Aeronautical Engineering	Captain	US Navy (Retired)	3	566	4	24.0	Gemini 9, Apollo 10, Apollo 17	2017-01-16	Natural causes
F. Andrew Gaffney	1963	3	Retired	1946-06-09	Carlsbad, NM	Male	University of California - Berkeley; University of New Mexico	Psychology	Medicine	Captain	US Navy (Retired)	1	218	0	0.0	STS-40 (Columbia)		
F. Curtis Michel	1965	4	Retired	1934-06-05	La Crosse, WI	Male	California Institute of Technology	Physics	Physics	Captain	US Navy (Retired)	0	0	0	0.0	STS-40 (Columbia)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
ology																		
Francis R. Scobee	1978	8	Deceased	1939-05-19	Cle Elum, WA	Male	University of Arizona	Aerospace Engineering	Engineering Management	Major	US Air Force (Retired)	2	167	0	0.0	STS 41-C (Challenger), STS 51-L (Challenger)	1986-01-28	STS 51-L (Challenger)
Frank Borman	1962	2	Retired	1928-03-14	Gary, IN	Male	US Military Academy; California Institute of Technology	Aerospace Engineering	Aeronautical Engineering	Colonel	US Air Force (Retired)	2	477	0	0.0	Gemini 7, Apollo 8		
Frank L. Culbertson Jr.	1984	10	Retired	1949-05-15	Charleston, SC	Male	US Naval Academy	Aerospace Engineering	Aeronautical Engineering	Captain	US Navy (Retired)	3	3446	1	5.0	STS -38 (Atlantis), STS -51 (Discovery), STS -105/108 (Discovery/E		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight Hours	Space Walks	Space Walks Hours	Missions	Death Date	Death Mission
Franklin R. Chang-Diaz	1980	9	Retired	1950-04-05	San Jose, Costa Rica	Male	University of Connecticut; MIT	Mechanical Engineering	Applied Plasma Physics	Captain	US Navy (Retired)	7	1602	3	19.0	STC-61-C (Columbia), STS-34 (Atlantis), STS-46 (Atlantis), STS-60 (Discovery), STS-75 (Columbia), STS-91 (Discovery), STS-111 (Endeavour)		
Fred W. Haise Jr.	1966	5	Retired	1933-11-14	Biloxi, MS	Male	University of Oklahoma	Aeronautical Engineering	Applied Plasma Physics	Captain	US Navy (Retired)	1	142	0	0.0	Apollo 13		
Fred W. Leslie	1966	5	Retired	1951-12-19	Ancon, Panama	Male	University of Texas	Engineering Science	Metology	Captain	US Navy (Retired)	1	381	0	0.0	STS-73 (Columbia)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h	Space Walks	Space Walks_h	Missions	Death Date	Death Mission
Fredrick D. Gregory	1978	8	Retired	1941-01-07	Washington, DC	Male	University of Oklahoma	Engineering Science	Information Systems	Colonel	US Air Force (Retired)	3	455	0	0.0	STS-51-B (Challenger), STS-33 (Discovery), STS-44 (Atlantis)		
Fredrick H. Haddock	1978	8	Retired	1941-04-11	Long Beach, CA	Male	Tufts University; MIT	Physics	Nuclear Engineering	Captain	US Navy (Retired)	3	435	0	0.0	STS-7 (Challenger), STS-51-A (Discovery), STS-26 (Discovery)		
Fredrick W.	1995	15	Retired	1961-08	La Mesa, CA	Male	California Poly	Mechanical Engi	Nuclear Engin	Colonel	US Marine Corps	4	1233	0	0.0	STS-88 (Endeavor),		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Sturckow				-11			lytec hnic State Unive rsity	neering	eeering		ps (Retire d)					STS -105 (Dis cove ry), STS -117 (Atl antis), STS -128 (Dis cove ry)		
G. David Low	1984	10	Deceased	1956-02-19	Cleveland, OH	Male	Washington & Lee University; Cornell University; Stanford University	Physics & Engineering	Mechanical Engineering; Aeronautics & Astronautics	Colonel	US Marine Corps (Retired)	3	714	1	6.0	STS -32 (Columbia), STS -43 (Atlantis), STS -57 (Endeavour)	2008-03-15	Natural causes
G. Reid Wiseman	2009	20	Active	1975-11-11	Baltimore, MD	Male	Rensselaer Polytechnic Institute	Computer & Systems Engineering	Systems Engineering	Commander	US Navy	1	3968	2	13.0	ISS-40/41 (Soyuz)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Garrrett E. Reisman	1998	17	Retired	1968-02-10	Morris town, NJ	Male	University of Pennsylvania ; Johns Hopkins University	Economics	Mechanical Engineering	Commander	US Navy	2	2571	3	21.0	STS-123/124 (Endeavour/Discovery), STS-132 (Atlantis)		
Gary E. Payton	1998	17	Retired	1948-06-20	Rock Island, IL	Male	US Air Force Academy; Purdue University	Astronautical Engineering	Astronautical & Aeronautical Engineering	Major	US Air Force	1	73	0	0.0	STS-51-C (Discovery)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
George D. Nelson	1978	8	Retired	1950-07-13	Charles City, IA	Male	Harvey Mudd College; University of Washington	Physics	Astronomy	Major	US Air Force	3	411	2	10.0	STS 41-C (Challenger), STS 61-C (Columbia), STS -26 (Discovery)		
George D. Zamka	1998	17	Retired	1962-06-29	Jersey City, NJ	Male	US Naval Academy; Florida Institute of Technology	Mathematics	Engineering Management	Colonel	US Marine Corps (Retired)	2	692	0	0.0	STS -120 (Discovery), STS -130 (Endeavour)		
Gerald P. Carr	1966	5	Retired	1932-08-22	Denver, CO	Male	University of Southern California ; U	Mechanical Engineering	Aeronautical Engineering	Colonel	US Marine Corps (Retired)	1	2017	3	16.0	Skylab 4		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h_r	Space Walks	Space Walks_h_r	Missions	Death Date	Death Mission
Gregory E. Chamitoff	1998	17	Active	1962-08-06	Montréal, Canada	Male	California Polytechnic State University; California Institute of Technology; MIT	Electrical Engineering	Aeronautical Engineering; Aeronautics & Astronautics	Captain	US Navy (Retired)	2	4770	2	13.0	STS-124/126 (Discovery/Endeavor), STS-134 (Endeavor)		
Gregory H. Johnson	1998	17	Active	1962-05-12	London, England	Male	US Air Force Academy; Columbia University; University of Texas	Aeronautical Engineering	Flight Structures Engineering; Business Administration	Colonel	US Air Force (Retired)	2	755	0	0.0	STS-123 (Endeavor), STS-134 (Endeavor)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h_r	Space Walks	Space Walks_h_r	Missions	Death Date	Death Mission
NASA Astronauts																		
Gregory J. Harbaugh	1987	12	Retired	1956-04-15	Cleveland, OH	Male	Purdue University; University of Houston - Clear Lake	Aeronautical & Astronautical Engineering	Physical Science	Colonel	US Air Force (Retired)	4	817	3	18.0	STS-39 (Discovery), STS-54 (Endeavor), STS-71 (Atlantis), STS-82 (Discovery)		
Gregory T. Bivins	1987	12	Retired	1957-10-04	Demarest, NJ	Male	Princeton University; Stanford University	Chemical Engineering	Mechanical Engineering; Mechanical & Aerospace Engineering	Colonel	US Air Force (Retired)	2	471	0	0.0	STS-83 (Columbia), STS-94 (Columbia)		
Guion S. Bluford Jr.	1978	8	Retired	1942-11-22	Philadelphia, PA	Male	Pennsylvania State University; Air Force Institute of Technology	Aerospace Engineering	Aerospace Engineering; Business Administration	Colonel	US Air Force (Retired)	4	689	0	0.0	STS-8 (Challenger), STS-61-A (Challenger), STS-51-L (Columbia)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Altma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
							For orce Ins tit ute of Te ch no lo gy ; Un ive rsi ty of Ho ust on - Cl ear La ke		istr atio n							-39 (Dis cove ry), STS -53 (Dis cove ry)		
Gu y S. Gar dne r	1 9 8 0	9	Re tir ed	19 48 - 01 - 06	Al ta Vis ta, V A	M a l e	U S A i r F o r c e A c a d e m y; P u r d u e U n i v e r s i t y	Engi neeri ng Sci en ces; Astr onau tics & Mat hem atics	Ast ron auti cs	Co lon el	US Air For ce (Re tire d)	2	320	0	0.0	STS -27 (Atl antis), STS -35 (Col umb ia)		
Ha rri son H. Sch mitt	1 9 6 5	4	Re tir ed	19 35 - 07 - 03	San ta Rit a, N M	M a l e	Ca lif or nia Ins tit ute of Te ch no lo	Geol ogy	Ge olo gy	Co lon el	US Air For ce (Re tire d)	1	301	3	22. 0	Apo llo 17		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Heidemarie M. Stefanyshyn-Piper	1996	16	Retired	1963-02-07	St. Paul, MN	Female	MIT	Mechanical Engineering		Captain	US Navy	2	663	2	33.0	STS-115 (Atlantis), STS-126 (Endeavour)		
Henry W. Hartsfield Jr.	1969	7	Retired	1933-11-21	Birmingham, AL	Male	Auburn University; University of Tennessee	Physics	Engineering Science	Colonel	US Air Force (Retired)	3	482	0	0.0	STS-4 (Columbia), STS-41-D (Discovery), STS-61-A (Challenger)		
Jack D. Fischer	2009	20	Active	1974-01-23	Louisville, CO	Male	US Air Force Academy; MIT	Astronautical Engineering	Aeronautics & Astronautics	Colonel	US Air Force (Retired)	0	0	0	0.0	STS-51-I (Discovery), STS-26 (Discovery), STS-35 (Col		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h	Space Walks	Space Walks_h	Missions	Death Date	Death Mission
Columbia																		
Jack R. Lousma	1966	5	Retired	1936-02-29	Grand Rapids, MI	Male	University of Michigan; US Naval Postgraduate School	Aeronautical Engineering	Aeronautical Engineering	Colonel	US Marine Corps (Retired)	2	1619	2	11.0	Skylab 3, STS-3 (Columbia)		
Discovery																		
Jack Garman	1966	5	Retired	1932-10-12	Richfield, UT	Male	University of Utah	Business Finance	Aeronautical Engineering	Colonel	US Marine Corps (Retired)	1	167	0	0.0	STS 51-D (Discovery)		
Columbia																		
James A. Lovell Jr.	1962	2	Retired	1928-03-25	Cleveland, OH	Male	US Naval Academy	Business Finance	Aeronautical Engineering	Captain	US Navy (Retired)	4	715	0	0.0	Gemini 7, Gemini 12, Apollo 8, Apollo 13		
Columbia																		
James A. McDivitt	1964	2	Retired	1929-06-10	Chicago, IL	Male	University of Michigan	Astronautical Engineering	Aeronautical Engineering	Brigadier General	US Air Force (Retired)	2	338	0	0.0	Gemini 4, Apollo 9		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
James A. Pawelczyk	1984	2	Retired	1960-09-20	Buffalo, NY	Male	University of Rochester; Pennsylvania State University; University of North Texas	Biology & Psychology	Physiology; Biology	Brigadier General	US Air Force (Retired)	1	381	0	0.0	STS-90 (Columbia)		
James B. Irwin	1966	5	Deceased	1930-03-17	Pittsburgh, PA	Male	US Naval Academy; University of Michigan	Naval Sciences	Aeronautical Engineering	Colonel	US Air Force (Retired)	1	295	3	20.0	Apollo 15	1991-08-08	Natural causes
James C. Adams	1984	10	Retired	1946-03-03	Warsaw, NY	Male	US Military Academy	Engineering	Aerospace Engineering	Colonel	US Army (Retired)	2	334	0	0.0	STS-28 (Columbia), STS-43 (Atl		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
James D. Halsell Jr.	1990	13	Retired	1956-09-29	Monroe, LA	Male	US Air Force Academy; Troy State University; US Air Force Institute of Technology	Engineering	Business Management; Space Operations	Colonel	US Air Force (Retired)	5	1258	0	0.0	ST5-65 (Columbia), ST5-74 (Atlantis), ST5-83 (Columbia), ST5-94 (Columbia), ST5-101 (Atlantis)		
James D. van Hoffen	1978	8	Retired	1944-06-11	Fresno, CA	Male	University of California - Berkeley	Civil Engineering	Hydraulic Engineering; Fluid Mechanics	Colonel	US Air Force (Retired)	2	338	4	22.0	ST5-41-C (Challenger), ST5-51-I (Discovery)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
James D. Weatherbe	1984	10	Retired	1952-11-27	Flushing, NY	Male	University of Notre Dame	Aerospace Engineering	Hydraulic Engineering; Fluid Mechanics	Captain	US Navy (Retired)	6	1594	0	0.0	STS-32 (Columbia), STS-52 (Columbia), STS-63 (Discovery), STS-86 (Atlantis), STS-102 (Discovery), STS-113 (Endeavour)		
James F. Buchli	1978	8	Retired	1945-06-20	New Rochford, ND	Male	US Naval Academy; University of	Aeronautical Engineering	Aeronautical Engineering Systems	Colonel	US Marine Corps (Retired)	4	490	0	0.0	STS-51-C (Discovery), STS-61-A (Challenger), STS		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
							University of Alabama											Discovery
James P. Baglian	1980	9	Retired	1952-02-22	Philadelphia, PA	Male	Drexel University; Thomas Jefferson University	Mechanical Engineering	Medicine	Colonel	US Air Force (Retired)	2	337	0	0.0	STS-29 (Discovery), STS-40 (Columbia)		
James P. Dutton Jr.	2004	19	Management	1968-11-20	Eugene, OR	Male	US Air Force Academy; University of Washington	Astronautical Engineering	Aeronautics & Astronautics	Colonel	US Air Force	1	362	0	0.0	STS-131 (Discovery)		
James S.	1987	12	Retired	1949-03	Cordova, AL	Male	Auburn University	Aerospace Engineering	Aerospace Engineering	Colonel	US Army (Retired)	5	4853	4	22.0	STS-44 (Atlantis)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Jannie E. Voss	19990	13	Deceased	1956-10-08	South Bend, IN	Female	Purdue University; MIT	Engineering Science	Electrical Engineering; Aeronautics & Astronautics	Colonel	US Army (Retired)	5	1179	0	0.0	STS-57 (Endeavour), STS-63 (Discovery), STS-83 (Columbia), STS-94 (Columbia), STS-99 (Endeavour)	2012-02-06	Natural causes
Jay Clark Buckey	19990	13	Retired	1956-06-06	New York, NY	Male	Cornell University	Electrical Engineering	Medicine	Colonel	US Army (Retired)	1	381	0	0.0	STS-90 (Columbia)		
Jeanette J. Epps	20009	20	Active	1970-11-03	Syracuse, NY	Female	Le Moyne College; University of Maryland	Physics	Aerospace Engineering	Colonel	US Army (Retired)	0	0	0	0.0	STS-90 (Columbia)		
Jeffrey A. Ho	19978	8	Retired	1944-11	Brooklyn, NY	Male	Amherst College	Astronomy	Materials Science	Colonel	US Army (Retired)	5	1211	4	25.0	STS-51-D (Discovery)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Jeffman				1902	New York	Male	Yale University; Harvard University		Physics; Astrophysics		Retired					STS-35 (Columbia), STS-46 (Atlantis), STS-61 (Endeavour), STS-75 (Columbia)		
Jeffrey N. Williams	1916		Active	1958-01-18	Superior, WI	Male	US Military Academy; US Naval Postgraduate School; US Naval War College	Applied Science & Engineering	Aeronautical Engineering; National Security & Strategic Studies	Colonel	US Army (Retired)	4	12818	5	32.0	STS-101 (Atlantis), ISS-13 (Soyuz), ISS-21/2 (Soyuz), ISS-47/48 (Soyuz)		
Jeffrey	1915		Retired	1954-	Dallas	Male	University	Mechanical	Aviation	Captain	US Navy	3	655	0	0.0	STS-93 (Columbia)		

Name	Year	Group Number	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight Hours	Space Walks	Space Walks Hours	Missions	Death Date	Death Mission
S. Ashby	1955			06-01	, TX	Male	University of Idaho; University of Tennessee	Engineering	Systems		(Retired)							
Jerome Apt III	1918	11	Retired	1949-04-18	Springfield, MA	Male	Harvard University; MIT	Physics	Physics	Captain	US Navy (Retired)	4	847	2	11.0			STS-37 (Atlantis), STS-47 (Endeavour), STS-59 (Endeavour), STS-79 (Atlantis)
Jeremy L. Ross	1980	9	Retired	1948-01-20	Crown Point, IN	Male	Purdue University	Mechanical Engineering	Mechanical Engineering	Colonel	US Air Force (Retired)	7	1393	9	58.0			ST-61-B (Atlantis), ST-27 (Atlantis), ST-37 (Atlantis), STS-55 (Columbia),

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Jer ry M. Li ne nger	1992	14	Retired	1955-01-16	Mount Clemens, MI	Male	US Naval Academy; University of Southern California; University of North Carolina; Wayne State Unive	Bioscience	Systems Management; Public Health; Medicine; Epidemiology	Captain	US Navy (Retired)	2	3435	1	5.0	STS-74 (Atlantis), STS-88 (Endeavour), STS-110 (Atlantis)		
																STS-64 (Discovery), STS-81/84 (Atlantis)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Joan E. Higgins	1996	16	Retired	1964-08-03	Chicago, IL	Female	Southern Illinois University-Carbondale; Florida Institute of Technology	Electrical Engineering	Business Management; Space Systems	Captain	US Navy (Retired)	1	308	0	0.0	STS-116 (Discovery)		
Joe F. Edwards Jr.	1995	15	Retired	1958-02-03	Richmond, VA	Male	US Naval Academy; University of Tennessee-Knoxville	Aerospace Engineering	Aviation Systems	Commander	US Navy (Retired)	1	211	0	0.0	STS-89 (Endeavour)		
Joe H.	19	5	Retired	1932-	Dickinson	Male	University	Aeronautical	Aviation	Major General	US Air Force	2	224	0	0.0	STS-2 (Col		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h	Space Walks	Space Walks_h	Missions	Death Date	Death Mission
Engle	66			08 - 26	n, KS	Male	ty of Kansas	Engineering	Systems	General	ce (Retired)					umbia), STS 51-I (Discovery)		
John A. Lewellen	1967	6	Retired	1933 - 04 - 22	Cardiff, Wales	Male	University College at Cardiff	Chemistry	Chemistry	Major General	US Air Force (Retired)	0	0	0	0.0	STS -2 (Columbia), STS 51-I (Discovery)		
John B. Herrington	1996	16	Retired	1958 - 09 - 14	Wetumka, OK	Male	University of Colorado; US Naval Postgraduate School	Applied Mathematics	Aeronautical Engineering	Commander	US Navy (Retired)	1	330	3	20.0	STS -113 (Endeavour)		
John D. Olivas	1998	17	Retired	1966 - 05 - 25	North Hollywood, CA	Male	University of Texas-El Paso; University	Mechanical Engineering	Mechanical Engineering; Mechanical Engineering	Commander	US Navy (Retired)	2	665	5	34.0	STS -117 (Atlantis), STS -128 (Discovery)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
John E. Blaha	1980	9	Retired	1942-08-26	San Antonio, TX	Male	US Air Force Academy; Purdue University	Engineering Science	Astronautical Engineering	Colonel	US Air Force (Retired)	5	3861	0	0.0	STS-29 (Discovery), STS-33 (Discovery), STS-43 (Atlantis), STS-58 (Columbia), STS-79/81 (Atlantis/Atlantis)		
John H. Casper	1984	10	Management	1943-07-09	Greenville, SC	Male	US Air Force Academy; Purdue University	Engineering Science	Astronautics	Colonel	US Air Force (Retired)	4	825	0	0.0	STS-36 (Atlantis), STS-54 (Endeavour), STS-62 (Columbia),		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
George Jr.				- 30			Colorado; Researcher Polytectronic Institute; University of Hartford	Engineering	Business Administration		Res (Retired)						- 27	uses

John M. Fabian	1978	8	Retired	1939-01-28	Gose Creek, TX	Male	Washington State University; US Air Force Institute of Technology; Unive	Mechanical Engineering	Aerospace Engineering; Aeronautics & Astronautics	Colonel	US Air Force (Retired)	2	316	0	0.0	STS-7 (Challenger), STS-51-G (Discovery)		
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Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
John M. Grunsfeld	1992	14	Manageme nt	1958-10-10	Chicago, IL	Male	MIT; University of Chicago	Physics	Physics	Colonel	US Air Force (Retired)	5	1407	8	58.0	STS-67 (Endeavour), STS-81 (Atlantis), STS-103 (Discovery), STS-125 (Atlantis), STS-109 (Columbia)		
John O. Creighton	1978	8	Retired	1943-04-28	Orange, TX	Male	US Naval Academy; George Washington University	Physics	Science & Technology Administration	Captain	US Navy (Retired)	3	404	0	0.0	STS-51-G (Discovery), STS-36 (Atlantis), STS-48 (Discovery)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h_r	Space Walks	Space Walks_h_r	Missions	Death Date	Death Mission
John W. Young	1962	2	Retired	1930-09-24	San Francisco, CA	Male	Georgia Institute of Technology	Aeronautical Engineering	Aeronautical Engineering	Captain	US Navy (Retired)	6	835	3	20.0	Gemini 3, Gemini 10, Apollo 10, Apollo 16, STS-1 (Columbia), STS-9 (Columbia)		
John David F. Bartoe	1962	2	Retired	1944-11-17	Abington, PA	Male	Lehigh University; Georgetown University	Physics	Physics	Captain	US Navy (Retired)	1	190	0	0.0	STS 51-F (Challenger)		
John A. McBride	1978	8	Retired	1943-08-14	Charleston, WV	Male	US Naval Postgraduate School	Aeronautical Engineering	Physics	Captain	US Navy (Retired)	1	197	0	0.0	STS 41-G (Challenger)		
Jose M. Hernandez	2004	19	Retired	1962-08	French Canada	Male	University	Electrical Engineering	Electrical &	Captain	US Navy (Re	1	332	0	0.0	STS -128 (Dis		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Arnandez				1907	Tempe, CA		University of the Pacific; University of California - Santa Barbara	Engineering	Computer Engineering		(Retired)							
Joseph M. Acaba	2004	19	Active	1967-05-17	Ingleswood, CA	Male	University of California - Santa Barbara; University of Arizona	Geology	Geology	Captain	US Navy (Retired)	2	3307	2	13.0			STS-119 (Discovery), ISS-31/32 (Soyuz)
Joseph P. Allen	1967	6	Retired	1937-06-27	Crawfordsville, IN	Male	DePaul University; Yale University	Mathematics & Physics	Physics	Captain	US Navy (Retired)	2	313	2	12.0			ST-5 (Columbia), STS-51-A (Discovery)

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Joseph P. Kerwin	1965	4	Retired	1932-02-19	Oak Park, IL	Male	College of the Holy Cross; Northwestern University	Philosophy	Medicine	Captain	US Navy (Retired)	1	672	1	3.0	Skylab 2		
Joseph R. Tanner	1992	14	Retired	1950-01-21	Danville, IL	Male	University of Illinois	Mechanical Engineering	Medicine	Captain	US Navy (Retired)	4	1045	7	46.0	STS-66 (Atlantis), STS-82 (Discovery), STS-97 (Endeavour), STS-115 (Discovery)		
Judith A. Resnik	1978	8	Deceased	1949-04-05	Akron, OH	Female	Carnegie-Mellon University; Unive	Electrical Engineering	Electrical Engineering	Captain	US Navy (Retired)	2	144	0	0.0	STS-41-D (Discovery), STS-51-L (Challenger)	1986-01-28	STS-51-L (Challenger)

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Karen L. Nyberg	2000	18	Active	1969-10-07	Parker's Prairie, MN	Female	North Dakota; University of Texas	Mechanical Engineering	Mechanical Engineering	Captain	US Navy (Retired)	2	4320	0	0.0	STS-124 (Discovery), ISS-36/37 (Soyuz)		
Karl G. Henize	1967	6	Deceased	1926-10-17	Cincinnati, OH	Male	University of Virginia; University of Michigan	Mathematics	Astronomy	Captain	US Navy (Retired)	1	190	0	0.0	STS 51-F (Challenger)	1993-10-05	Natural causes
Karl J.	19	7	Retired	1937-	New York	Male	US Air	Mathematics	Aerospace	Colonel	US Air Force	3	386	0	0.0	STS -6 (Cha		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Bobko	69			12-23	rk, NY	le	r Force Academy; University of Southern California		Engineering		ce (Retired)					llen ger), STS-51-D (Discovery), STS-51-J (Atlantis)		
Kathleen Rubins	20009	20	Active	1978-10-14	Farmington, CT	Female	University of California - San Diego; Stanford University	Molecular Biology	Cancer Biology	Colonel	US Air Force (Retired)	1	2762	2	13.0	ISS-48/49 (Soyuz)		
Kathryn C. Thornton	1984	10	Retired	1952-08-17	Montgomery, AL	Female	Auburn University; University of	Physics	Physics	Colonel	US Air Force (Retired)	4	975	3	21.0	STS-33 (Discovery), STS-49 (Endeavour), STS-61		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Kathryn D. Sullivan	1978	8	Retired	1951-10-03	Patterson, NJ	Female	University of California - Santa Cruz; Dalhousie University	Earth Sciences	Earth Sciences	Colonel	US Air Force (Retired)	3	532	1	3.0	(Endeavour), STS-73 (Columbia)		
Kathryn P. Hire	1995	15	Management	1959-08-26	Mobile, AL	Female	US Naval Academy; Florida State Institute of Technology	Engineering Management	Space Technology	Captain	US Naval Reserves	2	711	0	0.0	STS-90 (Columbia), STS-130 (Endeavour)		

Name	Year	Group Num	Status	Bir th _ Date	Bir th _ Place	Ge n d e r	Al m a _ Ma t e r	Und er gr a d u a t e _ Maj or	Gr a d u a t e _ Ma j or	Mi lit a r y _ Ra n k	Mi lit a r y _ Br a n c h	Sp a c e _ Fli g h t s	Sp a c e _ Fl i g h t _ h r	Sp a c e _ W a l k s	Sp a c e _ W a l k s _ h r	Mis s i o n s	De a t h _ Date	De a t h _ Mi s s i o n
Kenneth D. Bowerson	1987	12	Retired	1956-11-14	Portsmouth, VA	Male	US Naval Academy; Columbia University	Aerospace Engineering	Mechanical Engineering	Captain	US Navy (Retired)	5	5078	2	13.0	STS-50 (Columbia), STS-61 (Endeavour), STS-73 (Columbia), STS-82 (Discovery), STS-113 (Endeavour/Soyuz)		
Kenneth D. Cameron	1984	10	Retired	1949-11-29	Cleveland, OH	Male	MIT; Michigan State University	Aeronautics & Astronautics	Aeronautics & Astronautics; Business Administration	Colonel	US Marine Corps (Retired)	3	562	0	0.0	STS-37 (Atlantis), STS-56 (Discovery), STS-74 (Atlantis)		
Kenneth D. Cockrell	1990	13	Management	1950-04-09	Austin, TX	Male	University of Texas; University of	Mechanical Engineering	Aeronautical Systems	Colonel	US Naval Reserves	5	1548	0	0.0	STS-56 (Discovery), STS-69 (Endeavour), STS-80 (Col		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Kenneth S. Reghtler Jr.	1987	12	Retired	1951-03-24	Patuxent River, MD	Male	U S Naval Academy; U S Naval Postgraduate School; University of Southern California	Aerospace Engineering	Aeronautical Engineering; Systems Management	Captain	US Navy (Retired)	2	327	0	0.0	umbria), STS-98 (Atlantis), STS-111 (Endeavour)		
																STS-48 (Discovery), STS-60 (Discovery)		
																STS-124 (Discovery), STS-132 (Atlantis)		
Kenneth T. Ham	1998	17	Retired	1964-12-12	Plainfield, NJ	Male	U S Naval Academy; U S	Aerospace Engineering	Aeronautical Engineering	Captain	US Navy	2	612	0	0.0			

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
eavor)																		

Kjell N. Lindgren	2000	20	Active	1973-01-23	Taipei, Taiwan	Male	US Air Force Academy; University of Colorado; Colorado State University; University of Minnesota; University of Texas Medical Branch -	Biology	Medicine; Cardiovascular Physiology; Health Informatics; Public Health	Brigadier General	US Air Force (Retired)	1	3400	2	15.0	ISS-44/45 (Soyuz)		
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Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
L. Blaine Hammond Jr.	1984	10	Retired	1952-01-16	Savannah, GA	Male	US Air Force Academy; Georgia Institute of Technology	Engineering Science	Engineering Science	Colonel	US Air Force (Retired)	2	462	0	0.0	STS-39 (Discovery), STS-64 (Discovery)		
L. Gordon Cooper Jr.	1959	1	Deceased	1927-03-06	Shawnee, OK	Male	Air Force Institute of Technology	Aeronautical Engineering	Engineering Science	Colonel	US Air Force (Retired)	2	225	0	0.0	Mercury 9, Gemini 5	2004-10-04	Natural causes
Laurel B. Clark	1996	16	Deceased	1961-03-10	Ames, IA	Female	University of Wisconsin-Madison	Zoology	Medicine	Captain	US Navy	1	382	0	0.0	STS-107 (Columbia)	2003-02-01	STS-107 (Columbia)

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Lawrence J. DeLucas	19996	16	Retired	1950-07-11	Syracuse, NY	Male	University of Alabama at Birmingham	Chemistry; Physiology; Optics	Chemistry; Biochemistry; Optometry	Captain	US Navy	1	331	0	0.0	STS-50 (Columbia)		
Lee J. Archambault	19998	17	Retired	1960-08-25	Oak Park, IL	Male	University of Illinois-Urbana	Aeronautical & Astronautical Engineering	Aeronautical & Astronautical Engineering	Colonel	US Air Force	2	639	0	0.0	STS-117 (Atlantis), STS-119 (Discovery)		
Lee M. Morin	19996	16	Management	1952-09-09	Manchester, NH	Male	University of Alabama-Birmingham	Mathematical & Electrical Science	Public Health; Biochemistry; Medicine; Microbiology	Captain	US Navy	1	259	2	14.0	STS-110 (Atlantis)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h_r	Space Walks	Space Walks_h_r	Missions	Death Date	Death Mission
Lealand D. Melvin	1998	17	Managerment	1964-02-15	Lynchburg, VA	Male	New York University	Chemistry	Materials Science Engineering	Captain	US Navy	2	565	0	0.0	STS-122 (Atlantis), STS-129 (Atlantis)		
LeRoy Chiao	1990	13	Retired	1960-08-28	Milwaukee, WI	Male	University of California - Berkeley; University of California - Santa Barbara	Chemical Engineering	Chemical Engineering	Captain	US Navy	4	5503	6	36.0	STS-65 (Columbia), STS-72 (Endeavor), STS-92 (Discovery), ISS-10 (Soyuz)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Linda M. Godwin	1985	11	Retired	1952-07-02	Cape Girardeau, MO	Female	Southwest Missouri State University of Missouri	Mathematics & Physics	Physics	Captain	US Navy	4	918	2	10.0	STS-37 (Atlantis), STS-59 (Endeavour), STS-76 (Atlantis), STS-108 (Endeavour)		
Lisa M. Nowak	1996	16	Retired	1963-05-10	Washington, DC	Female	US Naval Academy; US Naval Postgraduate School	Aerospace Engineering	Aeronautical Engineering	Captain	US Navy (Retired)	1	306	0	0.0	STS-121 (Discovery)		
Lodewijk van den Berg	1996	16	Retired	1932-03-24	Sluis, Netherlands	Male	Delft University of Technology; Unive	Chemical Engineering	Applied Science	Captain	US Navy (Retired)	1	168	0	0.0	STS 51-B (Challenger)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h	Space Walks	Space Walks_h	Missions	Death Date	Death Mission
Loren J. Shriver							University of Delaware	Aeronautical Engineering	Astronautical Engineering	Colonel	US Air Force (Retired)	3	386	0	0.0	STS 51-C (Discovery), STS -31 (Discovery), STS -46 (Atlantis)		
Loren W. Acton							Montana State University; University of Colorado	Engineering Physics	Solar Physics	Colonel	US Air Force (Retired)	1	190	0	0.0	STS 51-F (Challenger)		
M. Scott Carpenter							University of Colorado	Aeronautical Engineering	Solar Physics	Commander	US Navy (Retired)	1	4	0	0.0	Mercury 7		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flights	Space Walks	Space Walks	Missions	Death Date	Death Mission
Maec C. Jeimson	1987	12	Retired	1956-10-17	Decatur, AL	Female	Stanford University; Cornell University	Chemical Engineering	Medicine	Commander	US Navy (Retired)	1	190	0	0.0	STS-47 (Endeavour)		
Margaret Rhoads	1978	8	Retired	1947-11-08	Murfreesboro, TN	Female	University of California - Berkeley; University of Tennessee	Physiology	Medicine	Captain	US Navy	3	722	0	0.0	STS-51-D (Discovery), STS-40 (Columbia), STS-58 (Columbia)		
Mario Ruocco Jr.	1987	12	Management	1952-01-26	Bronx, NY	Male	City College of New York; Rutgers University	Earth & Planetary Science	Atmospheric Physics	Lieutenant Commander	US Navy (Retired)	3	551	0	0.0	STS-44 (Atlantis), STS-54 (Endeavour), STS-77 (Endeavour)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Mark C. Lee	1984	10	Retired	1952-08-14	Virgoqua, WI	Male	US Air Force Academy; MIT	Civil Engineering	Mechanical Engineering	Colonel	US Air Force (Retired)	4	789	4	26.0	STS-30 (Atlantis), STS-47 (Endeavour), STS-64 (Discovery), STS-82 (Discovery)		
Mark E. Kelly	1996	16	Retired	1964-02-21	Orange, NJ	Male	US Merchant Marine Academy; US Naval Postgraduate School	Marine Engineering & Nautical Science	Aeronautical Engineering	Captain	US Navy (Retired)	4	1298	0	0.0	STS-108 (Endeavour), STS-121 (Discovery), STS-124 (Discovery), STS-134 (Endeavour)		
Mark L. Polansky	1996	16	Retired	1956-06-02	Paterson, NJ	Male	Purdue University	Aeronautical & Astronautical Engineering	Aeronautical & Astronautical Engineering	Captain	US Navy (Retired)	3	995	0	0.0	STS-98 (Atlantis), ST-116 (Discovery),		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Mark N. Brown	1984	10	Retired	1951-11-18	Vaiparaiso, IN	Male	Purdue University; Air Force Institute of Technology	Aeronautical & Astronautical Engineering	Astronautical Engineering	Colonel	US Air Force (Retired)	2	249	0	0.0	STS-127 (Endeavour)		
Mark T. Vanderve	2009	20	Active	1966-11-10	Falls Church, VA	Male	Saint John's University; Stanford University	Physics	Applied Physics	Colonel	US Army	0	0	0	0.0	STS-28 (Columbia), STS-48 (Discovery)		
Mars ha S. Ivins	1984	10	Retired	1951-04-15	Baltimore, MD	Female	University of Colorado	Aerospace Engineering	Applied Physics	Colonel	US Army	5	1341	0	0.0	STS-32 (Columbia), STS-46 (Atlantis), STS-62		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
																(Columbia), STS-81 (Atlantis), STS-98 (Atlantis)		
Martin J. Fettman	1984	10	Retired	1956-12-31	Brooklyn, NY	Male	Cornell University; Colorado State University	Animal Nutrition	Physiology	Colonel	US Army	1	336	0	0.0	STS-58 (Columbia)		
Mary E. Weber	1992	14	Retired	1962-08-24	Cleveland, OH	Female	Purdue University; University of California - Berkeley	Chemical Engineering	Physical Chemistry	Colonel	US Army	2	450	0	0.0	STS-70 (Discovery), STS-101 (Atlantis)		
Mary	199	9	Retired	1947-	Southam	Female	Colorado	Biological	Microbial	Colonel	US Army	2	262	0	0.0	STS 61-B		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
L. Claeve	80			02 - 05	pton, NY	male	State University; Utah State University	Science	Ecology; Environmental Engineering							(Atlantis), STS-30 (Atlantis)		
Michael A. Baker	1985	11	Management	1953 - 10 - 27	Memphis, TN	Male	University of Texas	Aerospace Engineering	Microbial Ecology; Environmental Engineering	Captain	US Navy (Retired)	4	965	0	0.0	STS-43 (Atlantis), STS-52 (Columbia), STS-68 (Endeavour), STS-81 (Atlantis)		
Michael Collins	1963	3	Retired	1930 - 10 - 31	Rome, Italy	Male	US Military Academy	Aerospace Engineering	Microbial Ecology; Environmental Engineering	Captain	US Air Force Reserves	2	266	1	1.0	Gemini 10, Apollo 11		
Michael E.	1998	17	Active	1957 - 12	Siox Falls	Male	Texas A	Mechanical Engi	Systems En	Captain	US Air Force	3	4651	7	48.0	STS-121 (Discovery)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flights	Space Walks	Space Walks	Missions	Death Date	Death Mission
Fo ss u m				- 19	ls, SD		& M Un ive rsi ty; Ai r Fo rce Ins tit ute of Te ch no lo gy ; Un ive rsi ty of Ho ust on - Cl ear La ke	neeri ng	gin eeri ng; Phy sica l Sci enc e (Sp ace Sci enc e)		Res erv es (Re tire d)					ry), STS -124 (Dis cove ry), ISS- 28/2 9 (Soy uz)		
Mich ael E. Lo pe z- Al eg ria	1 9 9 2	14	Re tir ed	19 58 - 05 - 30	Ma dri d, Sp ain	M a l e	U S Na val Ac ad em y; U S Na val Po stg ra du ate Sc ho ol	Syst ems Engi neeri ng	Aer ona utic al En gin eeri ng	Ca pta in	US Na vy (Re tire d)	3	619 0	10	67. 0	STS -73 (Col umb ia), STS -92 (Dis cove ry), STS -113 (End eavo r), ISS- 14 (Soy uz)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Michael J. Bloomfield	1995	15	Retired	1959-03-16	Flint, MI	Male	US Air Force Academy; Old Dominion University	Engineering Mechanics	Engineering Management	Colonel	US Air Force (Retired)	3	779	0	0.0	STS-86 (Atlantis), STS-97 (Endeavour), STS-110 (Atlantis)		
Michael J. Foreman	1998	17	Management	1957-03-29	Columbus, OH	Male	US Naval Academy; US Naval Postgraduate School	Aerospace Engineering	Aeronautical Engineering	Captain	US Navy (Retired)	2	637	5	32.0	STS-123 (Endeavour), STS-129 (Atlantis)		
Michael J. Massimino	1996	16	Management	1962-08-19	Oceanside, NY	Male	Columbia University; MIT	Industrial Engineering	Technology & Policy; Mechanical Engineering	Captain	US Navy (Retired)	2	571	4	30.0	STS-109 (Columbia), STS-125 (Atlantis)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Michael J. McCullery	1984	10	Retired	1943-08-04	San Diego, CA	Male	Purdue University	Metallurgical Engineering	Metallurgical Engineering	Captain	US Navy (Retired)	1	119	0	0.0	STS-34 (Atlantis)		
Michael J. Smith	1980	9	Deceased	1945-04-30	Beaufort, NC	Male	US Naval Academy; US Naval Postgraduate School	Naval Sciences	Aeronautical Engineering	Captain	US Navy	1	0	0	0.0	STS 51-L (Challenger)	1986-01-28	STS 51-L (Challenger)
Michael L. Coats	1978	8	Retired	1946-01-16	Sacramento, CA	Male	US Naval Academy; George Washington University; US Naval Postgraduate School	Naval Sciences	Science & Technology Administration; Aeronautical Engineering	Captain	US Navy (Retired)	3	463	0	0.0	STS 41-D (Discovery), STS-29 (Discovery), STS-39 (Discovery)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Michael L. Grenhardt	1992	14	Managament	1956-05-04	Mansfield, OH	Male	Vanderbilt University; University of Pennsylvania	Physics	Bioengineering	Captain	US Navy (Retired)	4	1039	4	23.0	STS-69 (Endeavour), STS-83 (Columbia), STS-94 (Columbia), STS-104 (Atlantis)		
Michael P. Anderson	1995	15	Decessed	1959-12-25	Plattsburgh, NY	Male	University of Washington; Creighton University	Physics & Astronomy	Physics	Lieutenant Colonel	US Air Force	2	594	0	0.0	STS-89 (Endeavour), STS-107 (Columbia)	2003-02-01	STS-107 (Columbia)
Michael R. Barratt	2000	18	Active	1959-04-16	Vancouver, WA	Male	University of Washington	Zoology	Medicine; Aerospace Medicine	Lieutenant Colonel	US Air Force	2	5075	1	5.0	ISS-19/20 (Soyuz), STS-133 (Dis		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
							to n; North western Un iversi ty; W right St ate Un iversi ty											cove ry)
Michael R. Clifford	1990	13	Retired	1952-10-13	San Bernardino, CA	Male	U S Military Academy; Georgia Institute of Technology	Zoology	Aerospace Engineering	Lieutenant Colonel	US Army (Retired)	3	666	1	6.0	STS -53 (Discovery), STS -59 (Endeavour), STS -76 (Atlantis)		
Michael S. Hopkins	2009	20	Active	1968-12-28	Lebanon, MO	Male	University of Illinois; Stanford Un	Aerospace Engineering	Aerospace Engineering	Colonel	US Air Force	1	3990	2	13.0	ISS-37/38 (Soyuz)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
University																		
Michael T. Goddard	2000	18	Managed	1962-10-13	Parma, OH	Male	University of Notre Dame	Aerospace Engineering	Aerospace Engineering	Colonel	US Air Force (Retired)	2	592	4	30.0	STS-125 (Atlantis), STS-132 (Atlantis)		
Tarlton State University; Texas Woman's University																		
Michelle Hughes-Fulford	2000	18	Retired	1945-12-21	Mineral Wells, TX	Female		Chemistry & Biology	Aerospace Engineering	Colonel	US Air Force (Retired)	1	218	0	0.0	STS-40 (Columbia)		
Georgia Institute of Technology; Auburn University;																		
N. Jan Davis	1987	12	Retired	1953-11-01	Coconut Beach, FL	Female		Applied Biology; Mechanical Engineering	Mechanical Engineering	Colonel	US Air Force (Retired)	3	673	0	0.0	STS-47 (Endeavour), STS-60 (Discovery), STS-85 (Discovery)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Nancy J. Currie	1990	13	Managerment	1958-12-29	Wilmington, DE	Female	University of Alabama-Huntsville											
							Ohio State University; University of Southern California; University of Houston	Biological Science	Safety Engineering; Industrial Engineering	Colonel	US Army (Retired)	4	999	0	0.0	STS-57 (Endeavour), STS-70 (Discovery), STS-88 (Endeavour), STS-109 (Columbia)		
Neil A. Armstrong	1962	2	Declassified	1930-08-05	Wapakoneta, OH	Male	Purdue University; University of	Aeronautical Engineering	Aerospace Engineering	Colonel	US Army (Retired)	2	205	1	2.0	Gemini 8, Apollo 11	2012-08-25	Complications from cardiac sur

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Neil W. Woodward III	1999	17	Retired	1962-07-26	Chicago, IL	Male	MIT; University of Texas-Austin; George Washington University	Physics	Physics; Business Management	Commander	US Navy	0	0	0	0.0	Gemini 8, Apollo 11		Germany
Nicholas J. Matrick	1999	17	Retired	1964-03-22	North Yorks hire, England	Male	University of Cambridge; MIT	Engineering	Engineering; Mechanical Engineering	Commander	US Navy	2	638	3	18.0	STS -116 (Discovery), STS -130 (Endeavour)		
Nicole P. Stott	2000	18	Active	1962-11-19	Alabama, NY	Female	Emory-Riddle Aerospace Engineering	Aeronautical Engineering	Engineering Management	Commander	US Navy	2	2477	1	6.0	STS -128/129 (Discovery/Atlant		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight Hours	Space Walks	Space Walks Hours	Missions	Death Date	Death Mission
Norman E. Thagard	1978	8	Retired	1943-07-03	Marianna, FL	Male	Florida State University; University of Texas	Engineering Science	Engineering Science; Medicine	Commander	US Navy	5	3373	0	0.0	is), STS-133 (Discovery)		
																STS-7 (Challenger), STS-51-B (Challenger), STS-30 (Atlantis), STS-42 (Discovery), STS-71 (Soyuz/Atlantis)		
Owen K. Garriott	1965	4	Retired	1930-11-22	Enid, OK	Male	University of Oklahoma	Electrical Engineering	Electrical Engineering	Commander	US Navy	2	1674	3	14.0	Skylab 3, STS-9 (Columbia)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
; Stanford University																		
Pamela A. Melroy	1995	15	Retired	1961-09-17	Palo Alto, CA	Female	Welllesley College; MIT	Physics & Astronomy	Earth & Planetary Sciences	Colonel	US Air Force (Retired)	3	914	0	0.0	STS-92 (Discovery), STS-112 (Atlantis), STS-120 (Discovery)		
US Military Academy; University of Virginia																		
Patrik G. Forrester	1996	16	Management	1957-03-31	El Paso, TX	Male	US Military Academy; University of Virginia	Applied Science & Engineering	Mechanical & Aerospace Engineering	Colonel	US Army (Retired)	3	950	4	25.0	STS-105 (Discovery), STS-117 (Atlantis), STS-128 (Discovery)		
Mechanical & Aerospace Engineering																		
Paul D. Scully-Power	1996	16	Retired	1944-05-28	Sydney, Australia	Male	University of Sydney	Applied Mathematics	Mechanical & Aerospace Engineering	Colonel	US Army (Retired)	1	197	0	0.0	STS-41-G (Challenger)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Paul J. Weitz	1966	5	Retired	1932-06-25	Erie, PA	Male	Pennsylvania State University; US Naval Postgraduate School	Aeronautical Engineering	Aeronautical Engineering	Captain	US Navy (Retired)	2	793	1	2.0	Skylab 2, STS-6 (Challenger)		
Paul S. Lockhart	1996	16	Retired	1956-04-28	Amarillo, TX	Male	Texas Tech University; University of Texas	Mathematics	Aerospace Engineering	Colonel	US Air Force (Retired)	2	663	0	0.0	STS-111 (Endeavour), STS-113 (Endeavour)		
Paul W. Richards	1996	16	Management	1964-05-20	Scranton, PA	Male	Drexel University; University of Maryland	Mechanical Engineering	Mechanical Engineering	Colonel	US Air Force (Retired)	1	307	1	6.0	STS-102 (Discovery)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Canada																		
Peggy A. Whitson	1996	16	Active	1960-02-09	Mt. Air, IA	Female	Iowa Wesleyan College; Rice University	Chemistry & Biology	Biochemistry	Colonel	US Air Force (Retired)	3	11698	7	46.0	STS-111/113 (Endeavour), ISS-16 (Soyuz), ISS-50/51 (Soyuz)		
Peter J. K. Wihofer	1990	13	Retired	1958-08-16	Norfolk, VA	Male	University of Virginia; Stanford University	Physics	Applied Physics	Colonel	US Air Force (Retired)	4	1064	3	20.0	STS-57 (Endeavour), STS-68 (Endeavour), STS-81 (Atlantis), STS-92 (Discovery)		
Philip K. Chapman	1967	6	Retired	1935-03-05	Melbourne, Australia	Male	University of Sydney; MIT	Physics & Mathematics	Aeronautics & Astronautics; Instrumentation	Colonel	US Air Force (Retired)	0	0	0	0.0	STS-57 (Endeavour), STS-68 (Endeavour), STS-81 (Atlantis), STS-		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Pierre J. Thout	1985	11	Retired	1955-05-19	Groton, CT	Male	US Naval Academy; University of Southern California	Physics	Systems Management	Commander	US Navy	3	654	3	17.0	-92 (Discovery)		
Piers J. Sellers	1996	16	Management	1955-04-11	Crowborough, England	Male	University of Edinburgh; Leeds University	Ecological Science	Bio meteorology	Commander	US Navy	3	839	6	41.0	STS-112 (Atlantis), STS-121 (Discovery), STS-132 (Atlantis)		
Randolph J. Brennik	2004	19	Active	1967-09-11	Fort Knox, KY	Male	The Citadel; University of Tennessee	Mathematics	Aviation Systems	Colonel	US Marine Corps	1	259	2	12.0	STS-129 (Atlantis)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
							of Houston - Clear Lake											
Richard A. Seafos	1990	13	Retired	1956-06-05	Mount Clemens, MI	Male	US Air Force Academy; California Institute of Technology	Aeronautical Engineering	Aeronautics	Colonel	US Air Force (Retired)	3	939	0	0.0	STS-58 (Columbia), STS-76 (Atlantis), STS-90 (Columbia)		
Richard F. Gordon Jr.	1963	3	Retired	1929-10-05	Seattle, WA	Male	University of Washington	Chemistry	Aeronautics	Captain	US Navy (Retired)	2	315	1	0.5	Gemini 11, Apollo 12		
Richard H. Truly	1969	7	Retired	1937-11-12	Fayette, MS	Male	Georgia Institute of Technology	Aeronautical Engineering	Aeronautics	Vice Admiral	US Navy (Retired)	2	199	0	0.0	STS-2 (Columbia), STS-8 (Challenger)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h_r	Space Walks	Space Walks_h_r	Missions	Death Date	Death Mission
Richard J. Hieb	1985	11	Retired	1955-09-21	Jamestown, ND	Male	Northwest Nazarene College; University of Colorado	Mathematics & Physics	Aerospace Engineering	Vice Admiral	US Navy (Retired)	3	766	3	18.0	STS-39 (Discovery), STS-49 (Endeavour), STS-65 (Columbia)		
Richard M. Linnehan	1992	14	Management	1957-09-19	Lowell, MA	Male	University of New Hampshire; Ohio State University; Harvard University	Animal Science	Veterinary Medicine; Public Administration	Vice Admiral	US Navy (Retired)	4	1427	6	43.0	STS-78 (Columbia), STS-90 (Columbia), STS-109 (Columbia), STS-123 (Endeavour)		
Richard 8	1978	8	Retired	1945-09	Wichita Falls	Male	US Military	Military Engineering	Aeronautical	Colonel	US Air Force	3	356	0	0.0	STS-41-D (Dis		

Name	Year	Group Num	Status	Birth - Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flights	Space Walks	Space Walks	Missions	Death - Date	Death Mission
M. Mullane				- 10	ls, TX		ary Academy; U S Air Force Institute of Technology	neering	Engineering		(Retired)							cove ry), STS -27 (Atlantis), STS -36 (Atlantis)
Richard N. Richards	1980	9	Retired	1946 - 08 - 24	Key West, FL	Male	University of Mississippi; University of West Florida	Chemical Engineering	Aeronautical Systems	Captain	US Navy (Retired)	4	813	0	0.0			STS -28 (Columbia), STS -41 (Discovery), STS -50 (Columbia), STS -64 (Discovery)
Richard O. Covey	1978	8	Retired	1946 - 08 - 01	Fayetteville, AR	Male	US Air Force Academy; Purdue University	Engineering Science	Aeronautics & Astronautics	Colonel	US Air Force (Retired)	4	645	0	0.0			STS 51-l (Discovery), STS -26 (Discovery), STS -38 (Atlantis)

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Spacewalks	Spacewalks_h	Missions	Death Date	Death Mission
							University), STS-61 (Endeavour)		
Richard R. Arnold II	2004	19	Active	1963-11-26	Chesley, MD	Male	Frostburg State University; University of Maryland	Accounting	Environmental Science	Colonel	US Air Force (Retired)	1	307	2	12.0	STS-119 (Discovery)	
Rick D. Husband	1995	15	Decceased	1957-07-12	Amarillo, TX	Male	Texas Tech University; California State University	Mechanical Engineering	Mechanical Engineering	Colonel	US Air Force	2	617	0	0.0	STS-96 (Discovery), STS-107 (Columbia)	STS-107 (Columbia)
Robert A. Parker	1967	6	Retired	1936-12-14	New York, NY	Male	Amherst College; California	Physics & Astronomy	Astronomy	Colonel	US Air Force	2	462	0	0.0	STS-9 (Columbia), STS-35 (Columbia)	

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Robert C. Springer	1980	9	Retired	1942-05-21	St. Louis, MO	Male	US Naval Academy; US Naval Postgraduate School	Naval Sciences	Operations Research	Colonel	US Marine Corps (Retired)	2	237	0	0.0	STS-29 (Discovery), STS-38 (Atlantis)		
Robert Cenker	1980	9	Retired	1948-11-05	Uniontown, PA	Male	Pennsylvania State University; Rutgers University	Aerospace Engineering	Aerospace Engineering; Electrical Engineering	Colonel	US Marine Corps (Retired)	1	146	0	0.0	STS-61-C (Columbia)		
Robert D. Ca	1985	11	Managem	1949-01-23	Minneapolis,	Male	US Naval Academy	Mathematics	Aerospace Engineering	Colonel	US Marine Corps	4	910	0	0.0	STS-41 (Discovery), STS		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Barbara			Deceased	1936-07-14	London, Ohio	Female	Malone College; US Naval Postgraduate School	Physics	Aeronautics	Colonel	US Marine Corps (Retired)	2	290	0	0.0	STS-53 (Discovery), STS-65 (Columbia), STS-88 (Endeavour)		
Robert F. Overmyer	1969	7	Deceased	1936-07-14	London, Ohio	Male	Malone College; US Naval Postgraduate School	Physics	Aeronautics	Colonel	US Marine Corps (Retired)	2	290	0	0.0	STS-5 (Columbia), STS-51-B (Challenger)	1996-03-22	Natural causes
Robert L. Behnken	2000	18	Active	1970-07-28	Creve Coeur, MO	Male	Washington University; California Institute of Technology	Physics & Mechanical Engineering	Mechanical Engineering	Colonel	US Air Force	2	708	6	37.0	STS-123 (Endeavour), STS-130 (Endeavour)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h	Space Walks	Space Walks_h	Missions	Death Date	Death Mission
							Technology											
Robert L. Crispin	1969	7	Retired	1937-09-11	Beaumont, TX	Male	University of Texas	Aerospace Engineering	Mechanical Engineering	Captain	US Navy (Retired)	4	565	0	0.0	STS-1 (Columbia), STS-7 (Challenger), STS-41-C (Challenger), STS-41-G (Challenger)		
Robert L. Culbeam Jr.	1995	15	Retired	1962-03-05	Baltimore, MD	Male	US Naval Academy; US Naval Postgraduate School	Aerospace Engineering	Aerospace Engineering; Aeronautical & Astronautical Engineering	Captain	US Navy (Retired)	3	902	7	45.0	STS-85 (Discovery), STS-98 (Atlantis), STS-116 (Discovery)		
Robert L. Gibson	1978	8	Retired	1946-10-30	Coopers town	Male	California Polytec	Aeronautical Engineering	Aerospace Engineering;	Captain	US Navy (Retired)	5	868	0	0.0	STS-41-B (Challenger), STS		

Name	Year	Group Number	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flights	Space Walks	Space Walks	Missions	Death Date	Death Mission
Robert L. Satcher Jr.	2004	19	Retired	1965-09-22	Hampton, VA	Male	MIT; Harvard University	Chemical Engineering	Aeronautical & Astronautical Engineering	Captain	US Navy (Retired)	1	259	2	12.0	61-C (Columbia), STS-27 (Atlantis), STS-47 (Endeavour), STS-71 (Atlantis)		
Robert L. Stewart	1978	8	Retired	1942-08-13	Washington, DC	Male	University of Southern California; University of Texas-Arlin	Mathematics	Aerospace Engineering	Brigadier General	US Army (Retired)	2	289	2	12.0	STS-41-B (Challenger), STS-51-J (Atlantis)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h	Space Walks	Space Walks_h	Missions	Death Date	Death Mission
Robert Shane Kimbrough	2004	19	Active	1967-06-04	Killeen, TX	Male	U S Military Academy; Georgia Institute of Technology	Aerospace Engineering	Operations Research	Colonel	US Army	3	3720	4	25.0	STS-126 (Endeavour), ISS-49/50 (Soyuz)		
Roger B. Chaffee	1963	3	Deceased	1935-02-15	Grand Rapids, MI	Male	Purdue University	Aeronautical Engineering	Operations Research	Lieutenant Commander	US Navy	1	0	0	0.0	Apollo 1	1967-01-27	Apollo 1
Roger K. Couch	1963	3	Retired	1940-09-12	Jamestown, TN	Male	Tennessee Polytechnic Institute; Virginia Polytechnic	Physics	Physics	Lieutenant Commander	US Navy	1	471	0	0.0	STS-83 (Columbia), STS-94 (Columbia)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_hr	Space Walks	Space Walks_hr	Missions	Death Date	Death Mission
							Institute											
							Youngstown State University; University of Florida											
Ronald A. Parise	1963	3	Deceased	1951-05-24	Warren, OH	Male		Physics	Astronomy	Lieutenant Commander	US Navy	2	614	0	0.0	STS-35 (Columbia), STS-67 (Endeavour)	2008-05-09	Natural causes
							University of Kansas; US Naval Postgraduate School											
Ronald E. Evans Jr.	1966	5	Deceased	1933-11-10	St. Francis, KS	Male		Electrical Engineering	Aeronautical Engineering	Captain	US Navy (Retired)	1	301	1	1.0	Apollo 17	1990-04-06	Due to heart attack
							North Carolina A & T State College											
Ronald E. McNair	1978	8	Deceased	1950-10-21	Lake City, SC	Male		Physics	Physics	Captain	US Navy (Retired)	2	191	0	0.0	STS-41-B (Challenger), STS-51-L (Challenger)	1986-01-28	STS-51-L (Challenger)

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight Hours	Space Walks	Space Walks Hours	Missions	Death Date	Death Mission
Ronald J. Garan Jr.	2000	18	Managed	1961-10-20	Yonkers, NY	Male	State University of New York; Embury-Riddle Aeronaautical University; University of Florida	Business Economics	Aeronautics; Aerospace Engineering	Colonel	US Air Force (Retired)	2	4271	4	27.0	STS-124 (Discovery), ISS-27/28 (Soyuz)		
Ronald J. Grabe	1980	9	Retired	1945-06-13	New York, NY	Male	US Air Force Academy	Engineering Science	Aeronautics; Aerospace Engineering	Colonel	US Air Force (Retired)	4	627	0	0.0	STS-51-J (Atlantis), STS-30 (Atlantis), STS-42 (Discovery), STS-57		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h_r	Space Walks	Space Walks_h_r	Missions	Death Date	Death Mission
(Endeavour)																		
Ronald M. Sega	1990	13	Retired	1952-12-04	Cleveland, OH	Male	US Air Force Academy; Ohio State University; University of Colorado	Physics & Mathematics	Physics; Electrical Engineering	Colonel	US Air Force Reserve (Retired)	2	420	0	0.0	STS-60 (Discovery), STS-76 (Atlantis)		
Roy D. Bridges Jr.	1980	9	Retired	1943-07-19	Atlanta, GA	Male	US Air Force Academy; Purdue University	Engineering Science	Astronautics	Major General	US Air Force (Retired)	1	190	0	0.0	STS 51-F (Challenger)		
Russell L. Schweick	1963	3	Retired	1935-10-25	Neptune, NJ	Male	MIT	Aeronautics & Astronautics	Aeronautics & Astron	Major General	US Air Force (Retired)	1	241	1	1.0	Apollo 9		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Samuel T. Durrance	1978	8	Retired	1943-09-17	Tallahassee, FL	Male	California State University; University of Colorado	Physics	Physics ; Astrophysics	Major General	US Air Force (Retired)	2	614	0	0.0	STS-35 (Columbia), STS-67 (Endeavour)		
Sandra H. Magnus	1996	16	Retired	1964-10-30	Belleville, IL	Female	University of Missouri-Rolla; Georgia Institute of Technology	Physics	Electrical Engineering; Materials Science & Engineering	Major General	US Air Force (Retired)	3	3776	0	0.0	STS-112 (Atlantis), STS-126/119 (Endeavour/Discovery), STS-135 (Atlantis)		
Scott D. Altman	1995	15	Retired	1959-08-15	Lincoln, IL	Male	University of Illinois; US Naval	Aeronautical & Astronautical Engineering	Aeronautical Engineering	Captain	US Navy (Retired)	4	1236	0	0.0	STS-90 (Columbia), STS-106 (Atlantis), STS-109		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
							Postgraduate School											(Columbia), STS-125 (Atlantis)
Scott D. Tingler	2000-09	20	Active	1965-07-19	Atleboro, MA	Male	Southwestern Massachusetts University; Purdue University	Mechanical Engineering	Mechanical Engineering	Commander	US Navy	0	0	0	0.0	STS-90 (Columbia), STS-106 (Atlantis), STS-109 (Columbia), STS-125 (Atlantis)		
Scott E. Parazynski	1999-02	14	Retired	1961-07-28	Little Rock, AR	Male	Stanford University	Biology	Medicine	Commander	US Navy	5	1404	7	47.0	STS-66 (Atlantis), STS-86 (Atlantis), STS-95 (Discovery), STS-100 (Endeavour), STS-120 (Dis		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_hr	Space Walks	Space Walks_hr	Missions	Death Date	Death Mission
covery)																		
Scott J. Horowitz	1992	14	Retired	1957-03-24	Philadelphia, PA	Male	California State University-Northridge; Georgia Institute of Technology	Engineering	Aerospace Engineering	Colonel	US Air Force (Retired)	4	1137	0	0.0	STS-75 (Columbia), STS-82 (Discovery), STS-101 (Atlantis), STS-105 (Discovery)		
Scott J. Kelly	1996	16	Active	1964-02-21	Orange, NJ	Male	State University of New York Maritime College; University of Tennessee	Electrical Engineering	Aviation Systems	Captain	US Navy (Retired)	4	12490	3	18.0	STS-103 (Discovery), STS-118 (Endeavour), ISS-25/26 (Soyuz), ISS-43/44/45/46 (Soyuz)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h	Space Walks	Space Walks_h	Missions	Death Date	Death Mission
Knoxville																		
Seena M. Auton	20009	20	Active	1976-04-09	Indianapolis, IN	Female	Georgetown University; University of Texas	Electrical Engineering	Medicine	Captain	US Navy (Retired)	0	0	0	0.0	STS-103 (Discovery), STS-118 (Endeavour), ISS-25/26 (Soyuz), ISS-43/44/45/46 (Soyuz)		
Shannon W. Lucid	1978	8	Retired	1943-01-14	Shanghai, China	Female	University of Oklahoma	Chemistry	Biochemistry	Captain	US Navy (Retired)	5	5354	0	0.0	STS-51-G (Discovery), STS-34 (Atlantis), STS-43 (Atlantis), STS-58 (Columbia), STS-76/79 (Atlantis)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h	Space Walks	Space Walks_h	Missions	Death Date	Death Mission
Shannon Walker	2004	19	Active	1965-06-04	Houston, TX	Female	Rice University	Space Physics	Space Physics	Captain	US Navy (Retired)	1	3919	0	0.0	ISS-24/25 (Soyuz)		
Sherrywood C. Sprिंग	1980	9	Retired	1944-09-23	Hartford, CT	Male	US Military Academy; University of Arizona	Engineering	Aerospace Engineering	Colonel	US Army (Retired)	1	165	2	12.0	STS-61-B (Atlantis)		
Sidney M. Gutierrez	1984	10	Retired	1951-06-27	Albuquerque, NM	Male	US Air Force Academy; Webster College	Aeronautical Engineering	Business Management	Colonel	US Air Force (Retired)	2	488	0	0.0	STS-40 (Columbia), STS-59 (Endeavour)		
Stanley G. Love	1998	17	Management	1965-06-08	San Diego, CA	Male	Harvey Mudd College; University	Physics	Astronomy	Colonel	US Air Force (Retired)	1	306	2	15.0	STS-122 (Atlantis)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alt Matter	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
							ty of Washington											
Stephenie D. Wilson	1996	16	Active	1966-09-27	Boston, MA	Female	Harvard University; University of Texas	Engineering Science	Aerospace Engineering	Colonel	US Air Force (Retired)	3	1031	0	0.0	STS-121 (Discovery), STS-120 (Discovery), STS-131 (Discovery)		
Stephen G. Bowen	2000	18	Active	1964-02-13	Cohasset, MA	Male	US Naval Academy; MIT	Electrical Engineering	Ocean Engineering	Captain	US Navy	3	970	7	47.0	STS-126 (Endeavour), STS-132 (Atlantis), STS-133 (Discovery)		
Stephen K. Robinson	1995	15	Retired	1955-10-26	Sacramento, CA	Male	University of California - Davis; Stanford	Mechanical & Aeronautical Engineering	Mechanical Engineering	Captain	US Navy	4	1162	3	20.0	STS-85 (Discovery), STS-95 (Discovery), STS-114 (Discovery),		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Steven L. Smith	1992	14	Manag ement	1958-12-30	Phoenix, AZ	Male	Stanford University	Electrical Engineering	Electrical Engineering	Captain	US Navy (Retired)	4	960	7	49.0	-31 (Discovery), STS-82 (Discovery), STS-93 (Columbia)		
																STS-68 (Endeavour), STS-82 (Discovery), STS-103 (Discovery), STS-110 (Atlantis)		
																STS-51-G (Discovery), STS-61-A (Challenger), STS-37 (Atlantis), STS-55 (Col		
Steven R. Nagel	1978	8	Retired	1946-10-27	Canton, IL	Male	University of Illinois; California State University-Fresno	Aerospace Engineering	Mechanical Engineering	Colonel	US Air Force (Retired)	4	721	0	0.0			

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flights	Space Walks	Space Walks	Missions	Death Date	Death Mission
Stuart A. Rosas	1966	5	Deceased	1933-08-16	Durango, CO	Male	University of Colorado	Aeronautical Engineering	Business Administration; Physiology; Literature; Medicine	Colonel	US Air Force (Retired)	1	216	0	0.0	Apollo 14	1994-12-12	Natural causes
Sunita L. Williams	1998	17	Active	1965-09-19	Euclid, OH	Female	US Naval Academy; Florida Institute of Technology	Physical Science	Engineering Management	Captain	US Navy	2	7721	7	50.0	STS-116/117 (Discovery/Atlantis), ISS-32/33 (Soyuz)		
Susan J. Helms	1990	13	Retired	1958-02-26	Charlotte, NC	Female	US Air Force Academy; Stanford	Aeronautical Engineering	Aeronautics & Astronautics	Lieutenant General	US Air Force	5	5063	1	9.0	STS-54 (Endeavour), STS-64 (Discovery), STS-78 (Columbia)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Tayl or G. Wang	1985	11	Retired	1940-06-16	Jiangxi, China	Male	University of California at Los Angeles	Physics	Physics	Commander	US Navy (Retired)	1	168	0	0.0	STS-51-B (Challenger)		
Terence T. Henricks	1985	11	Retired	1952-07-05	Bryan, OH	Male	US Air Force Academy; Golden Gate University	Civil Engineering	Public Administration	Colonel	US Air Force (Retired)	4	1026	0	0.0	STS-44 (Atlantis), STS-55 (Columbia), STS-70 (Discovery), STS-78 (Columbia)		
Terrence W. Wilcutt	1990	13	Management	1949-10-31	Russellville, KY	Male	Western Kentucky Un	Mathematics	Public Administration	Colonel	US Air Force (Retired)	4	1008	0	0.0	STS-68 (Endeavor), STS-79 (Atlantis)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h	Space Walks	Space Walks_h	Missions	Death Date	Death Mission
Terry J. Hart	1978	8	Retired	1946-10-27	Pittsburgh, PA	Male	Lehigh University; MIT; Rutgers University	Mechanical Engineering	Mechanical Engineering; Electrical Engineering	Colonel	US Air Force (Retired)	1	167	0	0.0	STS-41-C (Challenger)		
Terry W. Virts Jr.	2000	18	Active	1967-12-01	Baltimore, MD	Male	US Air Force Academy; Embury-Riddle Aeronaautical University	Mathematics	Aeronautics	Colonel	US Air Force	2	5122	3	18.0	STS-130 (Endeavour), ISS-42/43 (Soyuz)		
							ive rsity), STS-89 (Endeavour), STS-106 (Atlantis)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flights	Space Walks	Space Walks	Missions	Death Date	Death Mission
Thodore C. Freeman	1963	3	Deceased	1930-02-18	Haverford, PA	Male	US Naval Academy; University of Michigan	Mathematics	Aeronautical Engineering	Captain	US Air Force	0	0	0	0.0	STS-130 (Endeavour), ISS-42/43 (Soyuz)	1964-10-31	T-38 jet aircraft
Thomas D. Akers	1987	12	Retired	1951-05-20	St. Louis, MO	Male	University of Mississippi-Rolla	Applied Mathematics	Applied Mathematics	Colonel	US Air Force (Retired)	4	814	4	29.0	STS-41 (Discovery), STS-49 (Endeavour), STS-61 (Endeavour), STS-79 (Atlantis)		
Thomas D. Jones	1990	13	Retired	1955-01-22	Baltimore, MD	Male	US Air Force Academy; University of Arizona	Applied Mathematics	Planetary Science	Colonel	US Air Force (Retired)	4	1272	3	20.0	STS-59 (Endeavour), STS-68 (Endeavour), STS-80 (Columbia), STS-98 (Atlantis)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Thomas H. Marshburn	2004	19	Active	1960-08-29	Statesville, NC	Male	Davidson College; University of Virginia; Wake Forest University; University of Texas Medical Branch - Galveston	Physics	Engineering Physics; Medicine; Medical Science	Colonel	US Air Force (Retired)	2	3871	4	24.0	STS-127 (Endeavour), ISS-34/35 (Soyuz)		
Thomas K. Matting	1966	5	Retired	1936-03-17	Chicago, IL	Male	Auburn University	Aeronautical Engineering	Engineering Physics; Medicine	Rear Admiral	US Navy (Retired)	3	508	1	1.0	Apollo 16, STS-4 (Columbia),		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight Hours	Space Walks	Space Walks Hours	Missions	Death Date	Death Mission
Glenn									Medicine; Medical Science							STS-51-L (Discovery)		
Thomas P. Stafford	1962	2	Retired	1930-09-17	Wentworth, OK	Male	US Naval Academy	Aeronautical Engineering	Engineering Physics; Medicine; Medical Science	Lieutenant General	US Air Force (Retired)	4	507	0	0.0	Gemini 6, Gemini 9, Apollo 10, Apollo-Soyuz Test Project		
Timothy J. Creamer	1998	17	Management	1959-11-15	Ft. Huachuca, AZ	Male	Loyola College; MIT	Chemistry	Physics	Colonel	US Army (Retired)	1	3917	0	0.0	ISS-22/23 (Soyuz)		
Timothy L. Kopra	2000	18	Active	1963-04-09	Austin, TX	Male	US Military Academy; Georgia Institute of Technology	Computer Science	Aerospace Engineering; Strategic Studies	Colonel	US Army (Retired)	2	5857	3	13.0	STS-127/128 (Endeavour/Discovery), ISS-46/47 (Soyuz)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
Tracey E. Caldwell (Dyson)	1999	17	Active	1969-08-14	Arcadia, CA	Female	University of California - Davis	Chemistry	Physical Chemistry	Colonel	US Army (Retired)	2	4531	3	23.0	STS-118 (Endeavour), ISS-23/24 (Soyuz)		
Vance D. Brand	1966	5	Retired	1931-05-09	Longmont, CA	Male	University of Colorado; University of California	Business Management; Aeronautical Engineering	Business Administration	Colonel	US Marine Corps Reserves	4	752	0	0.0	Apollo-Soyuz Test Project, STS-5 (Columbia), STS-41-B (Challenger)		

Name	Year	Group Num	Status	Bir th _ Date	Bir th _ Place	Gen der	Al ma _ mater	Und ergr adu ate _ Major	Gr ad uat e _ Major	Mi lit ar y _ Rank	Mil ita ry _ Branch	Sp ace _Fli ghts	Sp ace _Fl ight _ thr	Sp ace _W alks	Sp ace _W alks _ sh	Mis sion s	De ath _D ate	De ath _Mi ssion
Virgil G. Grissom	1959	1	Deceased	1926-04-03	Michell, IN	Male	Purdue University	Mechanical Engineering	Business Administration	Lieutenant Colonel	US Air Force	2	5	0	0.0	Mercury 4, Gemini 3, Apollo 1	1967-01-27	Apollo 1
Walter Cunningham	1963	3	Retired	1932-03-16	Creston, IA	Male	University of California - Los Angeles	Physics	Physics	Colonel	US Marine Corps Reserves	1	260	0	0.0	Apollo 7		
Walter M. Schirra Jr.	1959	1	Deceased	1923-03-12	Hackensack, NJ	Male	US Naval Academy	Naval Sciences	Physics	Captain	US Navy (Retired)	3	295	0	0.0	Mercury 8, Gemini 6, Apollo 7	2007-05-02	Natural causes
Wendy B. Lawrence	1992	14	Retired	1959-07-02	Jacksonville, FL	Female	US Naval Academy; MIT	Ocean Engineering	Ocean Engineering	Captain	US Navy (Retired)	4	1223	0	0.0	STS-67 (Endeavour), STS-86 (Atlantis), STS-91 (Discovery), STS		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
William Anders	1963	3	Retired	1933-10-17	Hong Kong	Male	US Naval Academy; Air Force Institute of Technology	Nuclear Engineering	Nuclear Engineering	Major General	US Air Force Reserves (Retired)	1	147	0	0.0	Apollo 8	-114 (Discovery)	
William A. Oeflein	1998	17	Retired	1965-03-29	Ft. Belvoir, VA	Male	Oregon State University; University of Tennessee	Electrical Engineering	Aviation Systems	Commander	US Navy (Retired)	1	308	0	0.0	STS-116 (Discovery)		
William A. Piles	1998	17	Retired	1952-06-26	Hackensack, NJ	Male	US Air Force Academy; Te	Computer Science	Computer Science	Colonel	US Air Force (Retired)	1	97	0	0.0	STS 51-J (Atlantis)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
							exas A & M University											
William B. Lenoir	1967	6	Deceased	1939-03-14	Miami, FL	Male	MIT	Electrical Engineering	Electrical Engineering	Colonel	US Air Force (Retired)	1	122	0	0.0	STS-5 (Columbia)	2010-08-26	Natural causes
William C. McCool	1996	16	Deceased	1961-09-23	San Diego, CA	Male	US Naval Academy; University of Maryland; US Naval Postgraduate School	Naval Sciences	Computer Science; Aeronautical Engineering	Commander	US Navy	1	382	0	0.0	STS-107 (Columbia)	2003-02-01	STS-107 (Columbia)
William E. Thornton	1967	6	Retired	1929-04-14	Faison, NC	Male	University of North Carolina	Physics	Medicine	Commander	US Navy	2	315	0	0.0	STS-8 (Challenger), STS-51-B		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h_r	Space Walks	Space Walks_h_r	Missions	Death Date	Death Mission
William F. Fisher	1980	9	Retired	1946-04-01	Dallas, TX	Male	Stanford University; University of Houston; University of Florida	Physics	Engineering; Medicine	Commander	US Navy	1	170	2	12.0	STS 51-I (Discovery)		
William F. Readdy	1987	12	Retired	1952-01-24	Quonset Point, RI	Male	US Naval Academy	Aerospace Engineering	Engineering; Medicine	Captain	US Navy (Retired)	3	672	0	0.0	STS -42 (Discovery), STS -51 (Discovery), STS -79 (Atlantis)		
William G. Gregory	1990	13	Retired	1957-05-14	Lockport, NY	Male	US Air Force Academy; Colorado	Engineering Science	Engineering Mechanics; Business	Lieutenant Colonel	US Air Force	1	399	0	0.0	STS -67 (Endeavour)		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight hr	Space Walks	Space Walks hr	Missions	Death Date	Death Mission
							Columbia University; Troy State University		Management									
William M. Shepherd	1984	10	Retired	1949-07-26	Oak Ridge, TN	Male	US Naval Academy; MIT	Aerospace Engineering	Mechanical Engineering	Captain	US Navy (Retired)	4	3823	0	0.0	STS-37 (Atlantis), STS-41 (Discovery), STS-52 (Columbia), ISS-01/STS-102 (Soyuz/Discovery)		
William R. Poague	1966	5	Retired	1930-01-23	Okemah, OK	Male	Oklaoma Baptist University; Oklahoma State	Education	Mathematics	Colonel	US Air Force (Retired)	1	2017	2	13.0	Skylab 4		

Name	Year	Group Num	Status	Birth Date	Birth Place	Gender	Alma Mater	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Space Flight_h	Space Walks	Space Walks_h	Missions	Death Date	Death Mission
William S. McArthur Jr.	1990	3	Management	1951-07-26	Laurinburg, NC	Male	ate University US Military Academy; Georgia Institute of Technology	Applied Science & Engineering	Aerospace Engineering	Colonel	US Army (Retired)	4	5398	4	24.0	STS-58 (Columbia), STS-74 (Atlantis), STS-92 (Discovery), ISS-12 (Soyuz)		
Winston E. Scott	1992	14	Retired	1950-08-06	Miami, FL	Male	Florida State University; US Naval Postgraduate School	Music	Aeronautical Engineering	Captain	US Navy (Retired)	2	590	3	19.0	STS-72 (Endeavour), STS-87 (Columbia)		
Yvonne D. Cagle	1996	16	Management	1959-04-24	West Point, NY	Female	San Francisco	Bioc hemistry	Aeronautical Engineering	Colonel	US Air Force	0	0	0	0.0	STS-72 (Endeavour), STS		

Name	Year	Group Number	Status	Birth Date	Birth Place	Gender	Altitude Meter	Undergraduate Major	Graduate Major	Military Rank	Military Branch	Space Flights	Spacewalks	Spacewalks Hours	Missions	Death Date	Death Mission
			en t				State University			Engineering						-87 (Columbia)	

Task 2: Astronaut Status: Counting the Cosmic Pioneers.

In the dim glow of computer screens, we embark on a journey to distill insights from data, transforming numbers into meaningful narratives. Our mission is to honor the dedication and diversity of cosmic pioneers, celebrating their contributions to humanity's quest for the stars.

We embark on this journey to distill insights from data, transforming numbers into meaningful narratives. The query groups astronauts by their status, revealing the dynamic tapestry of their careers - active, retired, or otherwise.

In [7]:

```
%%sql
select Status,count(*) as 'Number' from astronauts group by Status
* mysql+pymysql://bf2aa06a:***@localhost/bf2aa06a
4 rows affected.
```

Out [7]:

Status	Number
Deceased	48
Retired	216
Active	50
Management	36

Task 3: Exploring Astronauts' Military Branch Diversity.

In the soft glow of computer screens, we continue our exploration of the astronaut dataset, our journey of honoring cosmic pioneers and uncovering the stories that connect them to the stars.

Our previous queries have illuminated the dynamic careers and diverse backgrounds of these space heroes. Now, we turn our attention to their military branches, a vital chapter in their incredible journeys.

In [8]:

```
%%sql
select Military_Branch,count(*) as 'Number' from astronauts group by Military_Branch
* mysql+pymysql://bf2aa06a:***@localhost/bf2aa06a
14 rows affected.
```

Out [8]:

Military_Branch	Number
US Navy (Retired)	100
US Navy	37
US Air Force (Retired)	108
US Air Force	26
US Marine Corps (Retired)	29
US Army (Retired)	21
US Coast Guard (Retired)	4
US Army	10
US Marine Corps	3
US Air Force Reserves	3
US Naval Reserves (Retired)	2
US Naval Reserves	2
US Air Force Reserves (Retired)	3
US Marine Corps Reserves	2

Task 4: Top Military Ranks Among Astronauts.

In the soft glow of computer screens, our cosmic journey through the astronaut dataset continues to unfold. Building upon our exploration of their military backgrounds, we now delve into the ranks that these celestial trailblazers once held in their respective armed forces.

In [9]:

```
%%sql
select Military_Rank, count(*) as 'Number' from astronauts group by Military_Rank order by Number desc LIMIT 5
* mysql+pymysql://bf2aa06a:***@localhost/bf2aa06a
5 rows affected.
```

Out [9]:

Military_Rank	Number
Colonel	155
Captain	115
Commander	26
Lieutenant Colonel	17
Major General	12

Task 5: Exploring Astronaut Demographics: Gender Insights.

Our cosmic journey through the astronaut dataset takes another captivating turn. Building upon our exploration of their military backgrounds and ranks, we now shift our focus to a crucial aspect of their diverse profiles: gender.

In [10]:

```
%%sql
select Gender,count(*) as 'Number' from astronauts group by Gender
* mysql+pymysql://bf2aa06a:***@localhost/bf2aa06a
2 rows affected.
```

Out[10]:

Gender	Number
Male	301
Female	49

Task 6: Astronauts' Life Expectancy: A Cosmic Perspective

As our cosmic journey through the astronaut dataset continues, we embark on a quest to understand the human lifespan within the realm of space exploration. Our focus now turns to the astronauts' life expectancies, a reflection of the profound experiences and challenges they've encountered.

In this exploration, we pay tribute to the resilience and courage of these cosmic pioneers. Each astronaut's life expectancy, whether achieved or anticipated, is a testament to the unwavering spirit that propels humanity beyond Earth's bounds.

In [11]:

```
%%sql
select cast(round(avg(life_expectancy),0) as unsigned) as average_life_expectancy from
(
  select
    case when status = 'Deceased' then death_date-birth_date
    else 2023-birth_date end as life_expectancy
  from astronauts
) as subquery
* mysql+pymysql://bf2aa06a:***@localhost/bf2aa06a
1 rows affected.
```

Out[11]:

average_life_expectancy
69

Task 7: Honoring Female Astronauts: Life Expectancy.

In our ongoing journey through the astronaut dataset, we now shine a spotlight on a remarkable group of cosmic trailblazers—female astronauts. Their life expectancies, both achieved and anticipated, represent a testament to their extraordinary dedication and contribution to space exploration.

In [12]:

```
%%sql
select cast(round(avg(Female_life_Expectancy),0) as unsigned) as Female_Average_Life_Expectancy from
(select case when status = 'Deceased' and gender = 'Female' then death_date-birth_date when status <> 'Deceased' and gender = 'Female' then 2023-birth_date end as Female_life_Expectancy from astronauts)
```

Deceased' and gender = 'Female' then 2023-birth_date end **as** Female_life_Expectancy **from** astronauts) **a**
s subquery

```
* mysql+pymysql://bf2aa06a:***@localhost/bf2aa06a
1 rows affected.
```

Out[12]:

Female_Average_Life_Expectancy

62

Task 8: Celebrating Male Astronauts: Life Expectancy.

In our ongoing odyssey through the astronaut dataset, we now turn our attention to the remarkable group of male astronauts, who have left an indelible mark on the cosmos. The focus of our inquiry? Their life expectancies, a testament to their unyielding commitment and dedication to the exploration of space.

In [13]:

%%sql

```
select cast(round(avg(Male_life_Expectancy),0) as unsigned) as Male_Average_Life_Expectancy from(select case when status = 'Deceased' and gender = 'Male' then death_date-birth_date when status <> 'Deceased' and gender = 'Male' then 2023-birth_date end as Male_life_Expectancy from astronauts) as subquery
```

```
* mysql+pymysql://bf2aa06a:***@localhost/bf2aa06a
1 rows affected.
```

Out[13]:

Male_Average_Life_Expectancy

70

Task 9: Cosmic Scholars: Top Graduate Majors of Astronauts.

As our cosmic exploration through the astronaut dataset unfolds, we turn our focus to the educational pathways of these cosmic adventurers. With a keen eye on their graduate majors, we aim to uncover the diverse academic foundations that have propelled them into the boundless realms of space.

This forthcoming query, though a mere compilation of data, is a portal to a world of knowledge. It reveals the top ten graduate majors, offering a glimpse into the educational tapestry that makes up the astronaut corps.

In [14]:

%%sql

```
select Graduate_Major, count(*) as 'Number' from astronauts group by Graduate_Major order by Number desc limit 10
```

```
* mysql+pymysql://bf2aa06a:***@localhost/bf2aa06a
10 rows affected.
```

Out[14]:

Graduate_Major	Number
Aeronautical Engineering	34
Aerospace Engineering	26
Physics	17

Graduate_Major	Number
Medicine	16
Mechanical Engineering	14
Electrical Engineering	9
Astronautics	8
Aeronautics	7
Aeronautics & Astronautics	7
Aviation Systems	7

Task 10: Educational Odyssey: Astronauts and Their Degrees.

In our continuous journey through the astronaut dataset, we are now casting a wide net to encompass the full educational spectrum of these cosmic pioneers. The query we have set in motion is a treasure trove of information, offering us a profound glimpse into the academic odysseys that have propelled astronauts to the stars.

As we meticulously examine these numbers, we are not merely dealing with data points; we are delving into the very essence of these space heroes. The "Number_of_Astronauts" figure serves as a testament to the exclusive fellowship of cosmic explorers, those who have boldly transcended the boundaries of Earth.

In [15]:

```
%%sql
WITH Astronauts_with_Undergraduate_Degrees AS (
    SELECT COUNT(*) AS Astronauts_with_Undergraduate_Degrees_count
    FROM astronauts
    WHERE undergraduate_major <> ''
),
Astronauts_with_Graduate_Degrees AS (
    SELECT COUNT(*) AS Astronauts_with_Graduate_Degrees_count
    FROM astronauts
    WHERE graduate_major <> ''
)
SELECT
    COUNT(*) AS Number_of_Astronauts,
    A.Astronauts_with_Undergraduate_Degrees_count,
    B.Astronauts_with_Graduate_Degrees_count
FROM astronauts
CROSS JOIN Astronauts_with_Undergraduate_Degrees A
CROSS JOIN Astronauts_with_Graduate_Degrees B
GROUP BY A.Astronauts_with_Undergraduate_Degrees_count, B.Astronauts_with_Graduate_Degrees_count;
* mysql+pymysql://bf2aa06a:***@localhost/bf2aa06a
1 rows affected.
```

Out[15]:

Number_of_Astronauts	Astronauts_with_Undergraduate_Degrees_count	Astronauts_with_Graduate_Degrees_count
350	350	350

Task 11: Astronaut Birthplaces: Launching from Earth's Diverse Cities.

In our cosmic journey through the astronaut dataset, we now turn our gaze to the birthplaces of these intrepid space explorers. The query we've embarked upon, though a collection of data, is a portal to the origins of those who've ventured into the boundless cosmos.

As we dissect the numbers, we're not just dealing with statistics; we're unraveling the geographic tapestry that contributes to the astronaut corps. The birth states that emerge as the top five hold within them the beginnings of remarkable journeys.

Each city represents a unique chapter in the story of these cosmic pioneers. From bustling metropolises to quiet towns, these diverse origins reflect the universal aspiration to reach for the stars.

In [16]:

```
%%sql
select substring_index(Birth_Place,',',-1) as STATE,count(*) as number_of_astronauts_per_state
from astronauts
group by STATE
order by number_of_astronauts_per_state desc
limit 5
* mysql+pymysql://bf2aa06a:***@localhost/bf2aa06a
5 rows affected.
```

Out[16]:

STATE	number_of_astronauts_per_state
NY	30
CA	25
TX	23
OH	21
PA	19

Task 12: Voyages Beyond: Astronauts' Space Flights and Spacewalks.

As our voyage through the astronaut dataset unfolds, we now set our sights on the extraordinary journeys that these cosmic pioneers have undertaken. The query we've embarked upon holds within it a wealth of experiences, a testament to the adventurous spirit of those who've ventured into the cosmos.

Our calculations of the average number of space flights and spacewalks provide insight into the vast range of missions and activities these astronauts have undertaken. Each decimal point in the result represents another moment in space, another step taken in the weightlessness of the cosmos.

These averages tell the story of dedication, training, and the relentless pursuit of scientific discovery and exploration. The numbers, though abstract, are a reflection of the countless hours of preparation and the courage required to journey beyond our planet.

In [17]:

```
%%sql
select round(avg(space_flights),2) as Average_Number_Of_Space_Flight, round(avg(space_walks),2) as Average_Number_Of_Space_Walks
from astronauts
* mysql+pymysql://bf2aa06a:***@localhost/bf2aa06a
1 rows affected.
```

Out[17]:

Average_Number_Of_Space_Flight	Average_Number_Of_Space_Walks
2.40	1.27