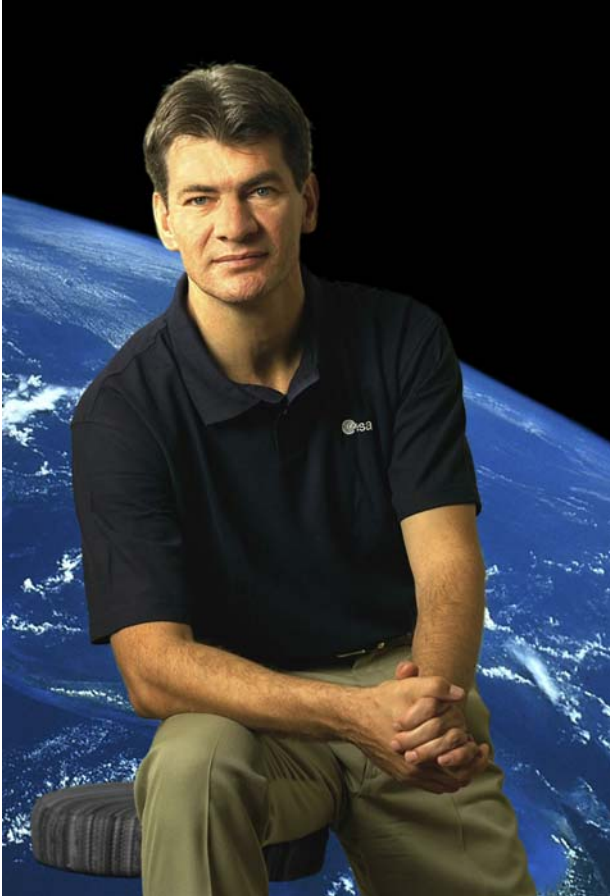


The Crew

ESA Astronaut: Paolo Nespoli (STS-120 Mission Specialist)



ESA astronaut Paolo Nespoli. (Image ESA)

Personal data: Born on 6 April 1957 in Milan, Italy. His hometown is Verano Brianza, Milan, Italy. He enjoys scuba diving, piloting aircraft, assembly of computer hardware, electronic equipment and computer software.

Education: Received a Bachelor of Science degree in Aerospace Engineering in 1988 and a Master of Science degree in Aeronautics and Astronautics in 1989 from the Polytechnic University of New York. Awarded the *Laurea in Ingegneria Meccanica* by the *Università degli Studi di Firenze*, Italy, in 1990.

Qualifications and Licenses: Civilian: Professional engineer, private pilot, advanced scuba diver and NitrOx diver. Military: Master parachutist, parachute instructor, jump master, high altitude low opening, Special Forces operator.

Special Honours: Team achievement awards for space mission Mir 97 (German Space Agency), space mission Euromir 95 (ESA), NASA-Mir

Programme (NASA), space mission Euromir 94 (ESA), Bed Rest Experiment (ESA–French Space Agency), Columbus Utilisation Simulation (ESA)

Experience: Nespoli was drafted by the Italian army in 1977 and became a non-commissioned officer working as a parachute instructor at the *Scuola Militare di Paracadutismo* of Pisa. In 1980 he joined the *9° Btg d'Assalto "Col Moschin"* of Livorno where he became a Special Forces operator. From 1982 to 1984, he was assigned to the Italian contingent of the Multinational Peacekeeping Force in Beirut, Lebanon. Following his return to Italy he was appointed an officer and continued working as a Special Forces operator.



ESA astronaut Paolo Nespoli (left) and NASA astronaut Douglas Wheelock during a Node 2 familiarisation session at the Kennedy Space Center on 25 April 2007. (Image: NASA)

Nespoli resumed his university studies in 1985. He left active army duty in 1987. Upon completing his

The Crew

M.Sc. in 1989, he returned to Italy to work as a design engineer for *Proel Technologie* in Florence, where he conducted mechanical analysis and supported the qualification of the flight units of the Electron Gun Assembly, one of the main parts of the Italian Space Agency's Tethered Satellite System.

In 1991 he joined ESA's European Astronaut Centre in Cologne, Germany. As an astronaut training engineer, he contributed to the preparation and implementation of basic training for the European astronauts and he was responsible for the preparation and management of astronaut proficiency maintenance. He was also responsible for the Astronaut Training Database, a software system used for the preparation and management of astronaut training.



ESA astronaut Paolo Nespoli (right) and NASA astronaut Douglas Wheelock during an equipment familiarisation session at the Kennedy Space Center on 29 March 2007. (Image: NASA)

In 1995, he was detached to the Euromir project at ESA's ESTEC establishment in Noordwijk, the Netherlands, where he was responsible for the team that prepared, integrated and supported the Payload and Crew Support Computer used on the Russian space station Mir.

In 1996, he was detached to NASA's Johnson Space Center in Houston, Texas, where he worked in the Spaceflight Training Division on the preparation of training for the ground and in-orbit crews of the International Space Station.



ESA astronaut Paolo Nespoli during training. (Image: NASA)

In July 1998, he was selected as an astronaut by the Italian Space Agency (ASI), and one month later, joined ESA's European Astronaut Corps, whose home base is the European Astronaut Centre (EAC) in Cologne, Germany.

In August 1998, he was relocated to NASA's Johnson Space Center in Houston, Texas, and assigned to the XVIIth NASA Astronaut class. In 2000 he obtained the necessary basic qualifications for being assigned to a mission on the Space Shuttle and to the International Space Station. In July 2001, he successfully completed the course for operating the Space Shuttle robotics arm and, in September 2003, successfully completed the Extra Vehicular Activities advanced skills training.

In August 2004, he was temporarily assigned to the Gagarin Cosmonaut Training Center in Star City near Moscow, where he followed the initial training for the Soyuz spacecraft.

After that, Nespoli returned to NASA's astronaut office at the Johnson Space Center in Houston, where he performed proficiency training to maintain the acquired qualifications and attended advanced courses. He also carried out several technical duties for NASA, ESA and the Italian Space Agency.

In June 2006, seizing on an ASI flight opportunity, Nespoli was assigned to Space Shuttle flight STS-120, ISS assembly flight 10A. Nespoli will be a mission specialist on the ISS assembly mission. This will include coordinating spacewalking activities during EVAs from inside the ISS as the intravehicular activity astronaut.

The Crew

NASA Astronauts: Pamela Melroy (STS-120 Mission Commander)

NASA astronaut and STS-120 commander Pamela Melroy.
(Image NASA)

Personal Data: Born 17 September 1961, in Palo Alto, California, USA. Married to Douglas Hollett and considers Rochester, New York, to be her hometown. Pam enjoys theatre, tap and jazz dancing, reading, cooking, and flying.

Education: Bachelor of Science degree in Physics and Astronomy from Wellesley College, 1983. Master of Science degree in Earth and Planetary Sciences from Massachusetts Institute of Technology, 1984.

Special Honours: Recipient of various US Air Force Medals.

Experience: Melroy was commissioned through the US Air Force ROTC programme in 1983. After completing a master's degree, she attended Undergraduate Pilot Training at Reese Air Force Base in Lubbock, Texas and graduated in 1985. She flew the KC-10 for six years as a co-pilot, aircraft commander and instructor pilot. In June

1991, she attended the Air Force Test Pilot School at Edwards Air Force Base, California, USA. Upon her graduation, she was assigned to the C-17 Combined Test Force, where she served as a test pilot until her selection for the NASA astronaut programme. She has logged over 5,000 hours flight time in over 45 different aircraft. Melroy retired from the Air Force in February 2007.

NASA Experience: Selected as an astronaut candidate by NASA in December 1994, Melroy reported to the Johnson Space Center in March 1995. She completed a year of training and evaluation and is qualified for flight assignment as a shuttle pilot. Initially assigned to astronaut support duties for launch and landing, she has also worked Advanced Projects for the NASA Astronaut Office. Melroy served on the Columbia Reconstruction Team as the lead for the crew module. She served as deputy project manager for a crew survival investigation team and also performed CAPCOM duties in mission control in Houston. Melroy served as pilot on two flights (STS-92 in 2000 and STS-112 in 2002), and has logged over 562 hours in space. Melroy is assigned to command the STS-120 mission that will deliver the Node 2 connecting module to the International Space Station.

Space Flight Experience: STS-92 (11-24 October 2000): During the 13-day flight, the seven-member crew attached the Z1 Truss and Pressurised Mating Adapter 3 to the International Space Station using Shuttle Discovery's robotic arm and performed four space walks to configure these elements. This opened the door for future assembly missions and prepared the Station for its first resident crew.

STS-112 (7-18 October 2002): STS-112 was an International Space Station assembly mission during which the crew conducted joint operations with the Expedition 5 crew by delivering and installing the S1 Truss section (the third piece of the Station's 11-piece Integrated Truss Structure). It took three spacewalks to outfit and activate the new component. The crew also transferred cargo between the two vehicles and used the shuttle's thruster jets during two manoeuvres to raise the Station's orbit. STS-112 was the first shuttle mission to use a camera on the External Tank, providing a live view of the launch to flight controllers and TV viewers.

The Crew

NASA Astronauts: George Zamka (STS-120 Mission Pilot)



NASA astronaut and STS-120 pilot George Zamka. (Image NASA)

Personal Data: Born in 1962 in Jersey City, New Jersey, USA. Married to the former Elisa Walker. They have two children. He enjoys weight lifting, running, cycling, scuba diving and boating.

Education: Received a Bachelor of Science degree in Mathematics from the United States Naval Academy in 1984; received a Masters of Science degree in Engineering Management from the Florida Institute of Technology in 1997.

Special Honours: Various US Naval and military medals and awards. Recipient of four NASA Superior Accomplishment Awards.

Experience: Zamka was commissioned as a Second Lieutenant in the United States Marine Corps after graduating from the United States Naval Academy in May 1984. After basic flight training, he was trained as an A-6E pilot at Whidbey

Island, Washington, USA in 1987-88. He then flew with Marine All Weather Attack Squadron VMA(AW)-242 in El Toro, California, USA.

He served in administration and flight safety roles and also as Squadron Weapons and Tactics Instructor. In 1990, he trained to be an F/A-18 pilot and was assigned to Marine All Weather Fighter Attack Squadron VMFA(AW)-121, also in El Toro, California. He flew the F/A-18D Night Attack Hornet during overseas deployments to Japan, Korea, Singapore, and Southwest Asia.

In 1993 he served with First Battalion, Fifth Marines in Camp Pendleton, California, USA and the 31st Marine Expeditionary Unit in the Western Pacific. He was selected to attend the United States Air Force Test Pilot School class 94A and graduated in December 1994. Zamka was then assigned as an F/A-18 test pilot/project officer and the F/A-18 Operations Officer for the US Naval Strike Aircraft Test Squadron (NSATS). While assigned to NSATS, Zamka flew a wide variety of tests in the F/A-18 Hornet to include high angle of attack, loads, flutter, crew equipment, and weapon system programmes. Zamka returned to VMFA(AW)-121 in 1998 and was serving as the Aircraft Maintenance Officer, deployed to Iwakuni, Japan, when selected for the NASA astronaut programme. He has over 4000 flight hours in more than 30 different aircraft.

NASA Experience: Selected as a pilot by NASA in June 1998, he reported for astronaut candidate training in August 1998. He has served in various technical and leadership roles in the astronaut office, to include space rendezvous and proximity operations, landing and rollout instructor, and lead for shuttle systems within the Shuttle Operations Branch. Zamka served as lead for the shuttle training and procedures division and as supervisor for the astronaut candidate class of 2004. He is assigned to serve as pilot on STS-120 Discovery.

The Crew

NASA Astronauts: Scott Parazynski MD (STS-120 Mission Specialist)

NASA astronaut Scott Parazynski during training. (Image: NASA)

Personal Data: Born 28 July 1961, in Little Rock, Arkansas USA. Married to the former Gail Marie Vozzella. They have two children. He enjoys rock climbing, mountaineering, flying, scuba, skiing, travel, woodwork and nature photography. A commercial, multi-engine, seaplane and instrument-rated pilot.

Education: He received a Bachelor of Science degree in biology from Stanford University in 1983, continuing on to graduate with honours from Stanford Medical School in 1989.

Special Honours: Various US medical awards and achievements and various NASA awards including four Space Flight Medals, two Exceptional Service Medals and a Distinguished Service Medal.

Experience: Parazynski studied antigenic variation in African sleeping sickness. He conducted research at the NASA Ames Research Center on fluid shifts during human space flight and has been involved in the design of exercise devices being developed for long-duration space flight. He has also conducted research on high-altitude acclimatisation and has numerous publications to his name.

NASA Experience: Selected as an astronaut in March 1992. After completing one year of training and evaluation, Parazynski served as one of the EVA crew representatives in the NASA Astronaut Office Mission Development Branch. He served as the Astronaut Office Operations Planning Branch crew representative for Space Shuttle, Space

Station and Soyuz training, and also served as Deputy (Operations and Training) of the Astronaut Office ISS Branch. Most recently, he served as Chief of the Astronaut Office EVA Branch. He was the Astronaut Office Lead for Space Shuttle Thermal Protection System Inspection and Repair following the Columbia tragedy.

Space Flight Experience: The STS-66 ATLAS-3 mission (3-14 November 1994): ATLAS-3 was part of an on-going programme to determine the Earth's energy balance and atmospheric change over an 11-year solar cycle, particularly with respect to human impact on the ozone. Parazynski had responsibility for a number of activities including operation of the ATLAS experiments. An exercise device he developed was also evaluated during the mission.

STS-86 (25 September to 6 October 1997): This Shuttle mission to the Mir Space Station included the first Shuttle-based joint American-Russian spacewalk. Parazynski was the navigator during the Mir rendezvous and performed a 5-hour spacewalk with Russian cosmonaut Vladimir Titov during which they retrieved four experiment packages. Other EVA objectives included the evaluation of EVA tools and a systems flight test of the Simplified Aid for EVA Rescue (SAFER).

STS-95 (29 October to 7 November 1998) during which the crew supported a variety of research payloads, including deployment of the Spartan solar-observing spacecraft and the testing of the Hubble Space Telescope Orbital Systems Test Platform. Parazynski's tasks included being the navigator for the Spartan spacecraft rendezvous and operating the Shuttle's robotic arm.

STS-100 (19 April to 1 May 2001) during which the crew successfully delivered and installed the "Canadarm2" robotic arm, on the International Space Station used for assembly and maintenance. Parazynski conducted two spacewalks with Canadian astronaut Chris Hadfield to assemble and power the robotic arm. Parazynski also operated the Shuttle's robotic arm to install and remove a European-built Multi-Purpose Logistics Module.

All of these four missions have included a European astronaut: Jean-Francois Clervoy (STS-66), Jean-Loup Chrétien (STS-86), Pedro Duque (STS-95) and Umberto Guidoni (STS-100). Parazynski will serve as the Lead Spacewalker during the STS-120 mission, taking part in four of the five EVAs.

The Crew

NASA Astronauts: Douglas Wheelock (STS-120 Mission Specialist)

NASA astronaut Douglas Wheelock. (Image NASA)

Personal Data: Born 5 May 1960 in Binghamton, New York, USA and considers Windsor, New York to be his hometown.

Education: Received a Bachelor of Science degree in Applied Science and Engineering from the United States Military Academy in 1983, and a Master of Science degree in Aerospace Engineering from Georgia Tech in 1992.

Special Honours: Various awards and medals, principally US military and NASA.

Experience: Wheelock received his commission as a Second Lieutenant in the US Army Infantry in May 1983. He entered flight school in 1984, graduated at the top of his flight class and was designated as an Army Aviator in September 1984. He subsequently served as a combat aviation Section Leader, Platoon Leader, Company Executive Officer, Battalion Operations Officer, and Commander of an Air Cavalry Troop in the 9th US Cavalry.

He was later assigned to the Aviation Directorate of Combat Developments as an Advanced Weapons Research and Development Engineer. As part of his Master of Science degree he carried out research in the areas of hypersonic and high

temperature gas dynamics, flight stability and control, and automatic control and robotics.

After completion of US Naval Test Pilot School he was assigned as an Experimental Test Pilot with the US Army Aviation Technical Test Center. He served as Division Chief for testing of Army Scout/Attack aircraft and weapons systems in support of tactical operations in the Balkans. Wheelock's work as a test pilot culminated in his assignment as Division Chief for fixed-wing testing of airborne signal and imagery intelligence systems in support of the US National Program Office for Intelligence and Electronic Warfare. Wheelock is a dual-rated US Master Army Aviator. He is also an FAA-rated commercial pilot in single and multi-engine land craft, rotorcraft, and gliders.

NASA Experience: Wheelock reported for Astronaut Candidate Training in August 1998. Following two years training, he was assigned to the Astronaut Office ISS Operations Branch as a Russian Liaison, participating in the testing and integration of Russian hardware and software products developed for the ISS.

In 2001 he assumed duties as the Crew Support Astronaut for the ISS Expedition 2 crew, from March to August 2001, and for the ISS Expedition 4 crew, from December 2001 to June 2002. He was the primary contact for all crew needs, coordination, planning and interactions.

In August 2002, Wheelock was assigned as a Spacecraft Communicator in the mission control centre in Houston. He was the primary communication link between crews on orbit and the ground support team in the control centre. He was assigned as lead Capsule Communicator or CAPCOM for the ISS Expedition 8 mission, which was 194 days in duration.

In January 2005, Wheelock was assigned to the Gagarin Cosmonaut Training Centre in Star City, Russia, as NASA's Director of Operations–Russia. He was responsible for supporting Russia-based training, logistic, and administrative needs of NASA astronauts preparing for flight on the ISS and was the primary liaison between Star City and NASA operations in Houston.

Wheelock will be one of spacewalking astronauts on three of the four scheduled EVAs as part of the STS-120 mission.

The Crew

NASA Astronauts: Stephanie Wilson (STS-120 Mission Specialist)

NASA astronaut Stephanie Wilson. (Image NASA)

Personal Data: Born in 1966 in Boston Massachusetts, USA. Enjoys skiing, music, stamp collecting, and travelling.

Education: Received a Bachelor of Science degree in Engineering Science from Harvard University in 1988, and a Master of Science degree in Aerospace Engineering from the University of Texas, in 1992.

Experience: After graduating from Harvard in 1988, Wilson worked for 2 years for the former Martin Marietta Astronautics Group in Denver, Colorado, USA. As a Loads and Dynamics engineer for Titan IV, Wilson was responsible for performing coupled loads analyses for the launch vehicle and payloads during flight events.

During her masters degree her research focused on the control and modelling of large, flexible space structures. Following the completion of her graduate work, she began working for the Jet Propulsion Laboratory in Pasadena, California, USA in 1992. As a member of the Attitude and Articulation Control Subsystem for the Galileo spacecraft, Wilson was responsible for assessing

attitude controller performance, science platform pointing accuracy, antenna pointing accuracy and spin rate accuracy. She worked in the areas of sequence development and testing as well. While at the Jet Propulsion Laboratory, Wilson also supported the Interferometry Technology Programme as a member of the Integrated Modelling Team, which was responsible for finite element modelling, controller design, and software development.

NASA Experience: Selected by NASA in April 1996, Wilson reported to the Johnson Space Center in Houston, Texas in August 1996. Having completed two years of training and evaluation, she is qualified for flight assignment as a mission specialist. She was initially assigned technical duties in the NASA Astronaut Office Space Station Operations Branch to work with Space Station payload displays and procedures. She then served in the Astronaut Office CAPCOM Branch, working in Mission Control in Houston as a prime communicator with on-orbit crews. Following her work in Mission Control, Wilson was assigned technical duties in the Astronaut Office Shuttle Operations Branch involving the Space Shuttle Main Engines, External Tank and Solid Rocket Boosters. Wilson completed her first space flight on STS-121 in 2006 and has logged almost 13-days in space.

Space Flight Experience: STS-121 (4-17 July 2006), was a return-to-flight test mission and assembly flight to the International Space Station. During the 13-day flight the crew of Space Shuttle Discovery tested new equipment and procedures that increase the safety of space shuttles, repaired a rail car on the International Space Station and produced high-resolution images of the Shuttle during and after its launch. Wilson supported robotic arm operations for vehicle inspection, Multi-Purpose Logistics Module installation and EVAs and was responsible for the transfer of almost 13 tonnes of supplies and equipment to the ISS. The crew also performed maintenance on the Space Station and delivered ESA astronaut Thomas Reiter as the first European member of a long-term ISS Expedition Crew.

The Crew

NASA Astronauts: Daniel Tani (Expedition 16 Flight Engineer) [ascent only]



NASA astronaut Dan Tani during training. (Image NASA)

Personal Data: Born 1 February 1961 in Ridley Park, Pennsylvania, USA but considers Lombard, Illinois, USA to be his hometown. Married to the former Jane Egan from Cork, Ireland. They have two children. He enjoys golf, flying, running, tennis, music, cooking.

Education: Received Bachelor and Master of Science degrees in Mechanical Engineering from Massachusetts Institute of Technology in 1984 and 1988, respectively.

Awards: Various US awards in Science and technology including an Honorary Doctorate of Science from Elmhurst College, Illinois, USA in 2003. Also received NASA spaceflight medal in 2001.

Experience: After Tani received his bachelor's degree he worked at Hughes Aircraft Corporation in El Segundo, California USA as a design engineer in the Space and Communications group. On his masters degree he specialised in human factors and group decision making. After graduation, Tani worked for Bolt Beranek and Newman in Cambridge, Massachusetts, USA in the experimental psychology department.

In 1988, Tani joined Orbital Sciences Corporation in Dulles, Virginia, USA initially as a senior structures engineer, and then as the mission operations manager for the Transfer Orbit Stage. In that role, he served as the flight operations lead, working with NASA Johnson Space Center mission control in support of the deployment of the ACTS/TOS payload during the STS-51 mission in September 1993.

Tani then moved to the Pegasus programme at the Orbital Sciences Corporation as the launch operations manager. In that capacity, he served as lead for the development of procedures and constraints for the launching of the air launched Pegasus unmanned rocket. Tani also was responsible for defining, training, and leading the team of engineers who worked in the launch and control room.

NASA Experience: Selected as an astronaut candidate by NASA in April 1996, Tani reported to the Johnson Space Center in August 1996. Having completed two years of training and evaluation, he qualified for flight assignment as a mission specialist in 1998. He held technical duties in the Astronaut Office Computer Support Branch, and EVA Branch and has served as a Crew Support Astronaut for Expedition 4.

In 2002, he was a crewmember on the Aquarius undersea research habitat for 9 days as part of the NEEMO-2 mission (NASA Extreme Environment Mission Operations). Tani then trained and qualified as the backup flight engineer for Expedition 11, which launched aboard the Soyuz TMA-6 in April 2005.

He will take over as flight engineer for Expedition 16 from Clayton Anderson after arriving at the ISS on the STS-120 mission. He will perform three spacewalks and numerous robotic operations in support of the installation and checkout of Node 2 during his several months on the ISS, returning on Shuttle Flight STS-122.

Space Flight Experience: STS-108 (5-17 December 2001) was the 12th shuttle flight to visit the International Space Station. During the mission, which exchanged the Expedition 3 for the Expedition 4 Crew and delivered almost 3 tonnes of supplies, logistics and science experiments in a Multi-Purpose Logistics Module, Tani performed a 4 hours and 12 minutes space walk to wrap thermal blankets around ISS Solar Array Gimbals.

The Crew

**NASA Astronauts: Clayton Anderson (Expedition 15/16 Flight Engineer)
[descent only]**

NASA astronaut Clayton Anderson. (Image NASA)

Personal Data: Born 23 February 1959 in Omaha, Nebraska, USA. He considers Ashland, Nebraska to be his hometown. Married to the former Susan Jane Harreld of Elkhart, Indiana, USA. They have two children. His interests include officiating College and High School basketball; participation in all sports; coaching youth sports; flying; reading; writing music; playing the piano/organ and vocal performance.

Education: Received a Bachelor of Science degree (Cum Laude) in Physics from Hastings College, Nebraska, USA in 1981 and a Master of Science degree in Aerospace Engineering from Iowa State University, USA in 1983.

Special Honours: Various US awards and honours including an Honorary Doctorate Degree from Hastings College, USA in 2004; and a Johnson Space Center Certificate of Commendation (1993).

NASA Experience: Anderson joined the Johnson Space Center in 1983 in the Mission Planning and Analysis Division where he performed rendezvous and proximity operations trajectory designs for early

Space Shuttle and Space Station missions. In 1988 he moved to the Mission Operations Directorate as a Flight Design Manager leading the trajectory design team for the Galileo planetary mission (STS-34) while serving as the backup for the Magellan planetary mission (STS-31). In 1989, Anderson was chosen supervisor of the Mission Operations Directorate Ascent Flight Design Section and following reorganisation, the Flight Design Engineering Office of the Flight Design and Dynamics Division. In 1993 he was named the Chief of the Flight Design Branch. From 1996 until his astronaut selection Anderson held the post of Manager, Emergency Operations Center, NASA Johnson Space Center.

Selected as a mission specialist by NASA in June 1998, he reported for training in August of that year. Training included orientation briefings and tours, numerous scientific and technical briefings, intensive instruction in Shuttle and International Space Station (ISS) systems, physiological training, ground school to prepare for T-38 flight training, as well as learning water and wilderness survival techniques.

Prior to being assigned to a spaceflight Anderson served as the lead for the Enhanced Caution and Warning System development effort within the Space Shuttle Cockpit Avionics Upgrade Project. Previously, he was the Crew Support Astronaut for ISS Expedition 4, providing ground support on technical issues in addition to supporting the crew families. Anderson also served as an ISS Capsule Communicator (CAPCOM) and as the Astronaut Office crew representative for the Station's electrical power system. In November of 2002, Anderson completed training in the Extravehicular Activity Skills programme. He also served as back-up Flight Engineer for Expeditions 12, 13 and 14 to the Station.

Spaceflight Experience: Anderson is currently serving as a member of the Expedition 15 crew on the International Space Station after being launched to the ISS on the STS-117 mission in June 2007. He will spend 4 months onboard the International Space Station returning to Earth aboard on the STS-120 mission after handing over his Flight Engineer duties to Dan Tani.