



The Crew

Thomas Reiter (ESA) ISS Expedition 13/14 Flight Engineer 2



ESA astronaut Thomas Reiter. (Credit: ESA)

Personal data

Born 23 May 1958, in Frankfurt/Main, Germany, Thomas is married and has two sons. He enjoys fencing, badminton, cooking and playing the guitar.

Education

Thomas Reiter has a Masters Degree in Aerospace Technology. He graduated from Goethe-High School in Neu-Isenburg near Frankfurt, Germany in June 1977, from the German Armed Forces University in Neubiberg, near Munich, in December 1982 and from the British Empire Test Pilots School (ETPS) in Boscombe Down, England, in December 1992.

Experience

After completion of military jet training at Sheppard Air Force Base in Texas, USA, Thomas Reiter flew the Alpha-Jet in a fighter-bomber squadron based in Oldenburg, Germany. He was involved in the development of computerized mission planning systems and became a flight-operations officer and deputy squadron commander. After completing the test-pilot training Class 2 at the German Flight Test Centre in Manching during 1990, Reiter was involved in

several flight test projects and conversion training on the Tornado the following year. Reiter attended the Class 1 test pilot training at ETPS, Boscombe Down, England in 1992. His flight experience includes more than 2300 hours in military combat jet aircraft of more than 15 types.



ESA astronaut Thomas Reiter during preparations for Extravehicular Mobility Unit training in May 2003 at NASA's Sonny Carter Training Facility Neutral Bouyance Laboratory. (Credit: NASA)

Thomas Reiter was also involved in European Space Agency (ESA) studies of a manned space vehicle (Hermes) and development of scientific equipment for the Columbus module, one of Europe's main contributions to the International Space Station.

In 1992, he was selected to join ESA's Astronaut Corps, based at the European Astronaut Centre (EAC) in Cologne, Germany. After completing basic training, Reiter was selected for the Euromir 95 mission and started training at TsPK (Cosmonauts Training Centre) in Star City near Moscow in August 1993, preparing for onboard-engineer tasks, extra-vehicular activities and operations of the Soyuz transportation system.



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The Euromir 95 experiment training was organized and mainly carried out at EAC.

In March 1995, he was assigned as on-board engineer for the Euromir 95 mission, a record-breaking 179 days mission (3 September 1995 until 29 February 1996) with two spacewalks (EVAs).



ESA astronaut Thomas Reiter during his second EVA as part of the Euromir 95 mission. During the EVA in February 1996, Reiter retrieved elements of the European Space Exposure Facility (ESEF). (Credit: ESA)

Between October 1996 and July 1997, Reiter underwent training on Soyuz-TM spacecraft operations for de-docking, atmospheric re-entry and landing. He was awarded the Russian 'Soyuz Return Commander' certificate, which qualifies him to command a three-person Soyuz capsule during its return from space.

Furthermore, he performed collateral duties in the ERA-team of ESA, which is developing the European Robotic Arm and its ground based test- and mission control equipment.

From September 1997 to March 1999, Reiter was detached to the German Air Force as Operational Group Commander of a Tornado fighter bomber wing. After his return to ESA he gave support to the ATV team and the ERA programme.

On 1 April 1999 he resumed his activities at the European Astronaut Centre in Cologne, Germany. He continued training at the Russian Cosmonaut Training Centre in Star City from June 1999 until March 2000 for the Russian Segment of the International Space Station.

Within the Directorate of Human Spaceflight, Microgravity and Exploration Programmes he has been working the last three years in the Columbus programme.

Spaceflight experience

ESA-Russian Euromir 95 mission to the Mir Space Station, along with Russian colleagues Yuri Gidzenko and Serguei Avdeev. Reiter was assigned as on-board engineer for the record-breaking 179 days mission (3 September 1995 until 29 February 1996). He performed some 40 European scientific experiments and participated in the maintenance of the Mir space station. He performed two spacewalks (EVAs) to install and later retrieve cassettes of the European Space Exposure Facility experiments (ESEF).

Current assignment

Since April 2001 he was assigned to the first ISS advanced training class to prepare for one of the first European long-term flights on-board ISS.

In September 2004, Thomas Reiter was assigned to a long duration mission to the International Space Station and is due to fly aboard Space Shuttle mission STS-121, currently scheduled for launch no earlier than July 2006.

Reiter will become ISS Flight Engineer 2 as a member of ISS Expeditions 13 and 14. In addition to his ISS Expedition tasks he will be carrying out a full experiment programme for the European Space Agency and will be involved in a number of NASA experiments.



The Crew

Léopold Eyharts (ESA) Backup ISS Expedition 13/14 Flight Engineer 2



ESA astronaut Léopold Eyharts. (Credit: ESA)

Personal data

Born 28 April 1957, in Biarritz, France. He is married and has one child. His hobbies are jogging, mountain biking, tennis, reading and computers.

Education

Graduated as an engineer from the French Air Force Academy of Salon-de-Provence in 1979. He qualified as a fighter pilot in Tours in 1980 and graduated from the French test pilot school (EPNER) in Istres in 1988.

Special honours

Eyharts has been decorated as Officer of the French Légion d'Honneur and is Chevalier de l'Ordre National du Mérite. He has been awarded the Médaille d'Outre-Mer, the Silver Medal of the Défense Nationale and the Russian medals for Friendship and Courage.

Experience

He joined the French Air Force Academy of Salon-de-Provence and graduated as an

aeronautical engineer in 1979. In 1980 he became a fighter pilot assigned to an operational Jaguar A squadron in Istres Air Force Base. In 1985, he was assigned as a flight commander at Saint-Dizier Air Force base.

In 1988 he graduated as a test pilot in the French test pilot school (EPNER) and was assigned to the Brétigny-sur-Orge Flight Test Centre near Paris, becoming Chief Test Pilot in 1990.

Eyharts has logged 3500 hours flying time on over 50 types of aircraft and 21 parachute jumps including one ejection. He holds a commission as Colonel in the French Air Force.

In 1990, Léopold Eyharts was selected as an astronaut by the French National Space Agency (CNES) and assigned to support the Hermes space plane programme within the Hermes Crew Office in Toulouse. He also became one of the test pilots and engineers in charge of the CNES parabolic flight programme (with Caravelle aircraft) and also carried out Airbus A300 Zero-G qualification flights.

Léopold Eyharts underwent two short-duration training sessions at the Yuri Gagarin Cosmonaut Training Centre near Moscow in 1991 and 1993, and took part in an evaluation of Russian Buran Space Shuttle training in Moscow, where he flew in the Tupolev 154 Buran in-flight simulator.



ESA astronaut Léopold Eyharts on the Mir Space Station during the Pegase mission, 29 January to 19 February 1998. (Credit: ESA)

In 1992, he participated in the European Space Agency (ESA) astronaut selection.



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In July 1994, he was assigned as a back-up crewmember for the Franco-Russian *Cassiopee* space flight, which took place in August 1996,



ESA astronaut Léopold Eyharts during training on the Pulmonary Function System, of which two elements are developed by ESA and two by NASA. (Credit: NASA)

In December 1996, he was selected as cosmonaut for the CNES follow-on scientific space mission called *Pegase*, which took place from 29 January to 19 February 1998.

In August 1998, Léopold Eyharts joined ESA's European Astronaut Corps whose homebase is the European Astronaut Centre (EAC) located in Cologne, Germany. He was assigned to train at NASA's Johnson Space Center in Houston, Texas and entered the 1998 Mission Specialist Class.

Léopold Eyharts received technical assignments within the NASA Astronaut Office at the Johnson Space Center, Houston. He worked in the ISS Operations Branch as a section chief for ISS Systems, software, and on-board information technology.

Spaceflight experience

Mission to the Russian Mir Space Station (29 January to 19 February 1998). During this Franco-Russian mission called *Pegase*, he performed various French experiments in the area of medical research, neuroscience, biology, fluid physics and technology.

Current assignment

Léopold Eyharts was assigned as backup of Thomas Reiter for ESA's first long duration mission to the International Space Station currently targeted for July 2006. Since October 2004 he is performing training together with his American and Russian backup crewmembers at Yuri A. Gagarin Cosmonaut Training Centre near Moscow and at NASA's Johnson Space Center, Houston.



The Crew

Pavel Vinogradov (Roscosmos) ISS Expedition 13 Commander



Cosmonaut Pavel Vladimirovich Vinogradov representing Roscosmos. (Image: NASA)

Personal Data: Born August 31, 1953, in Magadan, Russia. Hero of the Russian Federation, Pilot-cosmonaut of the Russian Federation, 3rd Class Cosmonaut. Hobbies include game sports, history of aviation and cosmonautics, astronomy.

Education: In 1977 Vinogradov graduated from the Moscow Aviation Institute, department Airborne Vehicles with specialisation in booster designing, and in 1980 he received the qualification of computer systems analyst at the department of Automated Designing Systems.

Experience: Between 1977–1983 Vinogradov specialised in software development for automated interactive designing systems of recoverable vehicles, development of aerodynamics and aerodyne arrangement design models, computer graphics.

In 1983 Vinogradov started working for the Head Design Bureau of RSC Energia. He worked on flight procedure verification for Soyuz TM and

Buran vehicles, development of automated crew training systems. Participated in launch preparation of the Soyuz TM, Buran vehicles and Energia rockets.

Vinogradov joined the Energia cosmonaut corps in May 1992. From October 1992 to February 1994, he completed generic space training at GCTC. From May 1994 to February 1995, he completed advanced test-cosmonaut training. He has logged 11 hours in L-39 training airplane, and has completed 29 parachute jumps.

From February 20 to September 3, 1995, Vinogradov trained as a flight engineer of the Mir-20 and EuroMir-95 backup crew to fly on the Soyuz TM and Mir space station.

From October 1995 to August 1996, he trained for spaceflight on the Soyuz TM vehicle and the Mir space station as a flight engineer under the Mir-22/NASA-3 and Cassiopée missions.

From August 1996 to August 1997, Vinogradov trained as a flight engineer of the Mir-24 prime crew. From March 1999 to April 2000, Vinogradov trained for spaceflight as the Mir-28 backup flight engineer.

From June 2000 to December 2000, he trained as the Mir-29 flight engineer.

From January 2001 to November 2002, he completed training as test-cosmonaut of the ISS group.

From December 2002 to February 2003, he trained as the flight engineer of the ISS Taxi backup crew 5.

Spaceflight experience

From 5 August, 1997 to 19 February, 1998, he performed a 198-day spaceflight onboard the Soyuz TM and Mir station as the Expedition 24 prime crew flight engineer under the Mir-24/NASA 5, 6 programme.

Current assignment

Vinogradov is currently serving as the Expedition-13 crew commander for a six-month tour of duty aboard the International Space Station. The Expedition 13 crew were launched on 30 March 2006 and arrived at the ISS on 1 April.



The Crew

Jeffrey N. Williams (NASA) ISS Expedition 13 Flight Engineer



Nasa astronaut Jeffrey Williams. (Image: NASA)

Personal Data: Born, January 18, 1958 in Superior, Wisconsin, but considers Winter, Wisconsin to be his hometown. Married to the former Anna-Marie Moore of Newburgh, New York. They have two sons. Enjoys running, fishing, camping, skiing, scuba diving and woodworking.

Education: Received a bachelor of science degree in applied science and engineering from the U.S. Military Academy (USMA) in 1980, a master of science degree in aeronautical engineering and the degree of aeronautical engineer from the U.S. Naval Postgraduate School, both in 1987, and a master of arts degree in National security and strategic studies from the U.S. Naval War College in 1996.

Special Honors: Graduated first in U.S. Naval Test Pilot School class 103; 1988 Admiral William Adger Moffett Award for Excellence in Aeronautical Engineering, Naval Postgraduate School; 1985 Daedalian Foundation Fellowship Award for Graduate Study in Aeronautics. Awarded Defense Superior Service Medal, Legion of Merit, 2 Meritorious Service Medals, the Army Commendation Medal, NASA Space Flight Medal, NASA Exceptional Service Medal and Master Army Aviator, Senior Space and Parachutist badges.

Experience: Williams began an Army assignment at JSC in 1987. Until his transfer in 1992, he served as a Shuttle launch and landing operations engineer, a pilot in the Shuttle Avionics Integration Laboratory, and chief of the Operations Development Office, Flight Crew Operations Directorate. Selected by NASA in May 1996, Williams again reported to JSC in August 1996. After completing two years of training and evaluation, he performed technical duties in the Spacecraft Systems Branch and later in the Space Station Operations Branch on temporary assignment to Marshall Space Flight Center.

In May 2000, he served as the flight engineer and lead spacewalker on STS-101. Since STS-101, he has served in the EVA Branch of the Astronaut Office, led the development of the cockpit upgrade requirements for the Space Shuttle, and completed a temporary assignment at NASA Headquarters in support of legislative affairs. In July 2002, Williams commanded a nine-day undersea coral reef expedition operating from the National Oceanic & Atmospheric Administration's Aquarius habitat off the coast of Florida.

Since November 2002, he has been training for an upcoming long-duration expedition on the International Space Station (ISS) shuttling between JSC and Star City, Russia. Williams was the backup Commander and Soyuz Flight Engineer for the 12th Expedition to the ISS launched on 30 September, 2005. Williams has logged over 2,500 hours in more than 50 different aircraft.

Spaceflight Experience: STS-101 *Atlantis* (May 19-29, 2000) was the third Shuttle mission devoted to International Space Station (ISS) construction. Objectives included transporting and installing over 5,000 pounds of equipment and supplies, and included Williams' first EVA (space walk) lasting nearly 7 hours. The mission was accomplished in 155 orbits of the Earth, traveling 4.1 million miles in 236 hours and 9 minutes.

Current assignment

Williams is currently serving as the Flight Engineer and NASA Science Officer for the ISS Expedition 13 crew which were launched on the Russian Soyuz TMA 8 from Baikonur, Kazakhstan on 30 March, 2006 for an approximate six-month flight.



Crew during ascent: STS-121 Crew



STS-121 Crew. From left to right, Stephanie Wilson, Michael Fossum, Commander Steven Lindsey, Piers Sellers, Pilot Mark E. Kelly, and Lisa Nowak. (Image: NASA)

In addition to ESA astronaut Thomas Reiter who will travel to the ISS on the Space Shuttle Discovery there are an additional six NASA astronauts who will take part in the STS-121 Discovery mission.

Steven Lindsey is the Commander of STS-121. He has previously flown on three Shuttle missions (STS-87 and STS-95 as pilot and STS-104 as Commander. This mission included installation of the ISS Quest airlock). As Commander, Lindsey has overall responsibility for the on-orbit execution of the mission, Orbiter systems operations, and flight operations including landing the Orbiter.

Mark Kelly is the pilot on STS-121. This is his second Shuttle mission having been the pilot the on STS-108 mission. He will be responsible for systems operations and assisting in the rendezvous for docking to the Station.

Michael Fossum is Mission Specialist 1 on the STS-121 mission and as such will assist the commander and pilot, and Mission Specialist 2

with operations of the Space Shuttle systems. He will perform three EVAs, or spacewalks, during the mission together with Piers Sellers.

Lisa Nowak is Mission Specialist 2 on the STS-121 mission. Her role can be seen as the Flight Engineer during ascent and entry. In orbit, most of her tasks involve robotic operations.

Stephanie Wilson is Mission Specialist 3. Her duties during the mission include robotic operations for unberthing and installing the Multi-Purpose Logistics Module, from the Shuttle cargo bay to the ISS and then back once unloaded. She will also support the robotics for the vehicle inspection and EVAs.

Piers Sellers is Mission Specialist 4. This is his second Shuttle mission having served on the STS-112 ISS assembly mission. He will perform three spacewalks during the mission together with Michael Fossum. These will test the 50-foot robotic arm extension as a work platform and testing Shuttle inspection and repair techniques.



The Crew

Crew during descent: STS-116 Crew, Christer Fuglesang



ESA astronaut Christer Fuglesang. (Image: ESA)

Personal data

Born 18 March 1957 in Stockholm, Sweden. Married to the former Elisabeth Walldie. They have three children. He enjoys sports, sailing, skiing, frisbee, games and reading.

Education

Graduated from Bromma Gymnasium, Stockholm in 1975 and received a Master of Science degree (Engineering Physics) from the Royal Institute of Technology (KTH), Stockholm in 1981. Received a Doctorate in Experimental Particle Physics in 1987 and became a Docent in Particle Physics in 1991 at the University of Stockholm.

Special honours

He was awarded an Honorary Doctorate from Umea University, Sweden in October 1999.

Experience

As a graduate student, Fuglesang worked at CERN (European Research Centre on Particle Physics) in Geneva on the UA5 experiment, which studied proton-antiproton collisions. In 1988 he became a Fellow of CERN, where he worked on the CPLEAR experiment studying the subtle CP-

violation of Kaon-particles. After a year he became a Senior Fellow and head of the particle identification subdetector. In November 1990, Fuglesang obtained a position at the Manne Siegbahn Institute of Physics, Stockholm but remained stationed at CERN for another year working towards the new Large Hadron Collider (LHC) project. Since 1980, (when stationed in Sweden) Fuglesang taught mathematics at the Royal Institute of Technology (KTH).

In May 1992, Fuglesang was selected to join the Astronaut Corps of ESA based at the European Astronaut Centre (EAC) in Cologne, Germany.

In 1992 he received an introductory training programme at EAC and a four-week training programme at TsPK (Cosmonaut Training Centre) in Star City, Russia, with a view to future ESA-Russian collaboration on the Mir Space Station. In July 1993 he completed basic training at EAC.

In May 1993, Fuglesang and fellow ESA astronaut, Thomas Reiter, of Germany, were selected for the Euromir 95 mission and commenced training at TsPK (Moscow) in preparation for their onboard engineer tasks, extra-vehicular activities (spacewalks) and operation of the Soyuz spacecraft. The Euromir 95 experiment training was organised and mainly carried out at EAC.

On 17 March 1995 he was selected as member of Crew 2 for the Euromir 95 mission, joining Genadi Manakov and Pavel Vinogradov. During the mission, which lasted from 3 September to 29 February 1996, Fuglesang was the prime Crew Interface Coordinator (CIC). From the Russian Mission Control Centre (TsUP) in Kaliningrad, he was the main contact with ESA astronaut Thomas Reiter in Mir, and acted as coordinator between Mir and the Euromir 95 Payloads Operations Control Centre, located in Oberpfaffenhofen, Germany, and the project management.

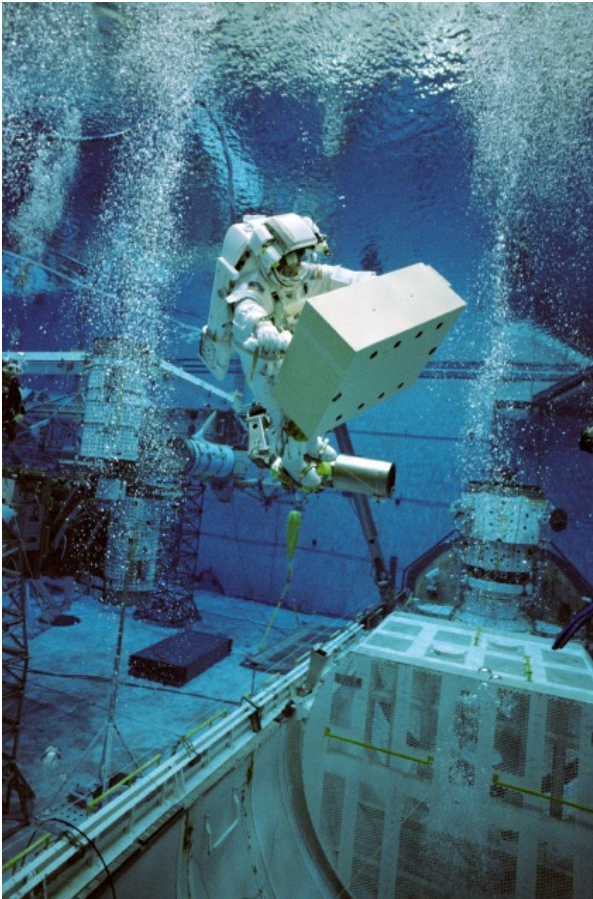
Between March and June 1996, he underwent specialised training in TsPK on Soyuz operations for de-docking, atmospheric re-entry and landing.

Christer Fuglesang entered the Mission Specialist Class at NASA/Johnson Space Center, Houston, in August 1996 and qualified for flight assignment as a Mission Specialist in April 1998.



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From May to October 1998, he resumed training at TsPK on Soyuz-TM spacecraft operations for de-docking, atmospheric re-entry and landing. He was awarded the Russian 'Soyuz Return Commander' certificate, which qualifies him to command a three-person Soyuz capsule on its return from space.



ESA astronaut Christer Fuglesang during an EVA simulation for the STS-116 mission at the Johnson Space Center's Neutral Buoyancy Laboratory. (Image: NASA)

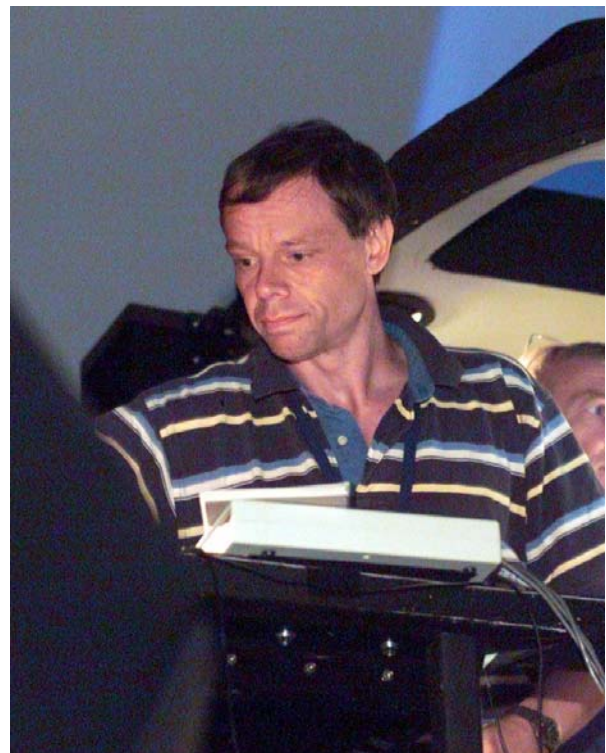
In October 1998 he returned to NASA-JSC and was assigned to technical duties in the Astronaut Office Station Operations System Branch on Russian Transfer Vehicles (i.e. Soyuz and Progress). Later he worked as prime Increment Crew Support Astronaut for the Expedition Corps of the 2nd International Space Station increment crew.

Christer Fuglesang has continued with some scientific work and was involved with the SilEye experiment which investigated light flashes in astronauts' eyes on Mir between 1995 and 1999. This work is continuing on ISS with the Alteino detector, launched in 2002 and the ALTEA

apparatus scheduled to fly in 2006. He has also initiated the DESIRE Project to simulate and estimate the radiation environment inside ISS.

Current assignment

Christer Fuglesang is a member of ESA's European Astronaut Corps, whose homebase is the European Astronaut Centre, located in Cologne, Germany. He provides collateral duties in the NASA-JSC Astronaut Office and has most recently worked with upcoming payloads for ISS.



ESA astronaut Christer Fuglesang during Systems Engineering Simulator Crew Training in a Shuttle Flight Deck Simulator at the Johnson Space Center. (Image: NASA)

At the end of February 2002, Christer Fuglesang was assigned as a Mission Specialist to the STS-116 Space Shuttle mission, scheduled to visit the International Space Station (ISS) towards the end of 2006. He will be the first Swedish astronaut to fly to space. The crew of this mission, also referred to as the 12A.1 ISS assembly flight, is planned to achieve quite a number of important operations including the assembly of a new segment to the ISS truss and the exchange of one ISS expedition crewmember. Christer Fuglesang will play a major role in this mission, in particular with the performance of Extra Vehicular Activities (EVAs) to attach the new hardware to the Space Station and to change the Station's electrical power system.



The Crew

Crew during descent: STS-116 Crew

In addition to ESA astronauts Christer Fuglesang and Thomas Reiter, the STS-116 crew will be composed of the following NASA astronauts:



STS-116 Commander Mark Polansky. (Image: NASA)

Mark Polansky is the commander of the STS-116 mission. This is his second spaceflight mission having served on the STS-98 mission in 2001, which brought the US Destiny laboratory to the ISS.



STS-116 pilot William Oefelein. (Image: NASA)

William Oefelein is the pilot on the STS-116 mission. He will be responsible for systems operations and assisting in the rendezvous for docking to the Station.

Robert Curbeam is a Mission Specialist for the STS-116 mission. This is his third spaceflight mission having served on the STS-85 mission in 1997 and the STS-98 mission in 2001. During the STS-116 mission he is scheduled to carry out EVAs with ESA astronaut Christer Fuglesang.



STS-116 Mission Specialist Robert Curbeam. (Image: NASA)



STS-116 Mission Specialist Joan Higginbotham. (Image: NASA)

Joan Higginbotham is a Mission Specialist for the STS-116 mission. Her primary task will be to operate the Space Station Remote Manipulator System (SSRMS).



STS-116 Mission Specialist Nicholas Patrick. (Image: NASA)

Nicholas Patrick is also assigned as a Mission Specialist for the STS-116 mission.