

The Crew

## ESA Astronauts: Léopold Eyharts (Expedition 16 Flight Engineer) (Ascent only)



ESA astronaut Léopold Eyharts (Image: 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

Léopold has been decorated as Officer of the French Légion d'Honneur and 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 (France). 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 3800 hours flying time on over 50 types of aircraft and 21 parachute jumps including one ejection. He holds a commission as general 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 managed by the Hermes Crew Office in Toulouse. He became also one of the test pilots and engineer 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.

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

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

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

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NASA's Johnson Space Center in Houston, Texas and entered the 1998 Mission Specialist Class.

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



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)

Léopold Eyharts was assigned as backup of Thomas Reiter for ESA's first long duration mission to the International Space Station which took place between 4 July and 22 December 2006. From October 2004 Eyharts trained 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.

### 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.



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

### Current assignment

Léopold Eyharts is currently scheduled for a 7-8 week assignment to the International Space Station to deliver and commission the European Columbus laboratory. During this mission Eyharts will also fulfil the role and carry out the tasks of ISS Flight Engineer 2 for the Expedition 16 crew. This includes robotic arm activities relating to installation of the Columbus laboratory and the two European external payloads (EuTEF and SOLAR) to be installed on Columbus during the mission as well as activation and commissioning of the Columbus laboratory.

He will fly to the ISS with Space Shuttle Atlantis on flight STS-122, currently scheduled for launch in February 2008. Eyharts is due to return to Earth with Space Shuttle flight STS-123.

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## ESA Astronauts: Hans Schlegel (STS-122 Mission Specialist)



ESA astronaut Hans Schlegel. (Image: ESA)

### Personal Data

Born 3 August 1951 in Überlingen, Germany, but considers Aachen to be his hometown. Married to Heike Walpot. He has seven children. Recreational interests include skiing, scuba diving and flying. He also enjoys reading, and being a handyman.

### Education

He spent 1968/69 in the US as an American Field Service (AFS) exchange student and graduated from Lewis Central High School, Council Bluffs, Iowa. In 1970 he graduated from Hansa Gymnasium, a secondary school emphasizing mathematics and science at Cologne, Germany. In 1979 he received a Diploma in Physics (Master of Physics) from the University of Aachen, Germany.

### Organisations

Member of the Deutsche Physikalische Gesellschaft (German Physical Society) and of the AFS - Interkulturelle Begegnungen (American Field Service Germany).

### Special Honours and Awards

Verdienstkreuz 1. Klasse des Verdienstordens der Bundesrepublik Deutschland (Federal Service Cross 1st Class, Federal Republic of Germany), Russian Medal of Friendship.

### Experience

From 1970-72, he served as a paratrooper with the Federal Armed Forces. He left with the rank of second lieutenant, and after several reserve trainings, he was appointed reserve lieutenant in 1980. From 1979-86 he worked as an experimental Solid State Physicist at the Rheinisch Westfälische Technische Hochschule (RWTH) Aachen (University of Aachen) and performed research in the field of electronic transport properties and optical properties of semiconductors. From 1986-88 he was a Specialist in non-destructive testing methodology in the research and development department of the company "Institut Dr. Förster GmbH & Co. KG" in Reutlingen, Germany.



ESA astronaut Hans Schlegel running through procedures checklist for post-insertion deorbit training. (Image: NASA)

From 1988 to 1990 he performed Basic Astronaut Training at the German Aerospace Research

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Establishment (DLR). This training included academic education and microgravity experience on approximately 1300 parabolas on KC-135. He became a certified research diver and holds a Private Pilot's license, including instrument rating and aerobatics.



ESA astronaut Hans Schlegel during an extravehicular spacesuit fit check at the Johnson Space Center on 23 August 2007. (Image: NASA)

In 1990 he was assigned payload specialist for the D-2 Mission and started Payload Training in Cologne, Germany and at the Johnson Space Center in Houston, Texas. This second German Spacelab mission successfully took place from 26 April to 6 May 1993 (STS-55 Columbia).

In August 1995 he went to the Yuri A. Gagarin Training Center (Moscow) to train for the German-Russian Mir 97 Mission as a backup. During the mission (10 February to 2 March 1997) he served as Crew Interface Coordinator responsible for ground-to-air communications. Between June 1997 and January 1998, he received additional training and certification as 2nd board engineer for the Russian Space Station Mir.

In 1998 he joined the European Astronaut Corps of the European Space Agency.

In August 1998, ESA sent him to the Johnson Space Center for training as a mission specialist with the NASA Astronaut Class of 98. In addition to his training he is also assigned to the CAPCOM Branch of the Astronaut Office, conducting voice communication to the International Space Station.

**Spaceflight Experience**

From 26 April to 6 May 1993, Schlegel served as Payload Specialist on STS-55 aboard Space Shuttle Columbia. Nearly 90 experiments were conducted during the German Spacelab D-2 mission to investigate life sciences, material sciences, physics, robotics, astronomy, and the Earth and its atmosphere.



ESA astronaut Hans Schlegel during the Spacelab D-2 mission in 1993.

**Current Assignment**

Hans Schlegel is assigned as a mission specialist on the STS-122 mission that will deliver and attach the European Space Agency's Columbus Laboratory to the International Space Station. As part of this mission Hans Schlegel will be a member of the first two EVA's or spacewalks, the first of which includes the unberthing and attachment of the Columbus laboratory. Schlegel's mission also includes activities to activate and commission the Columbus laboratory.

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## NASA Astronauts: Stephen Frick (STS-122 Commander)



NASA astronaut Stephen Frick. (Image: NASA)

### Personal Data

Hometown: Gibsonia, Pennsylvania, USA. Married and enjoys skiing, hiking, camping.

### Education

Graduated from Richland High School, Gibsonia, Pennsylvania in 1982; received a Bachelor of Science degree in Aerospace Engineering from the US Naval Academy in 1986; Master of Science degree in Aeronautical Engineering from the U.S. Naval Postgraduate School in 1994.

### Organizations

Society of Experimental Test Pilots, U.S. Naval Academy Alumni Association.

### Special Honours and Awards

Numerous U.S. service medals and awards.

### Experience

Frick was commissioned upon graduation from the U.S. Naval Academy in May 1986. After being designated as a U.S. Naval Aviator in February 1988, he reported to U.S. Strike Fighter Squadron 106 at Naval Air Station Cecil Field, Florida, USA

for transition to the F/A-18 Hornet. Upon completion of training, he reported to Strike Fighter Squadron 83 also at Cecil Field, and deployed to the Mediterranean Sea and Red Sea onboard the USS Saratoga. He was also designated an airwing qualified landing signals officer.

After leaving U.S. Strike Fighter Squadron 83 in 1991, Frick participated in a programme of 15 months at the Naval Postgraduate School in Monterey, California, USA and 1 year with the U.S. Naval Test Pilot School at Naval Air Station Patuxent River, Maryland USA. Upon graduation in June 1994, he was assigned as a project officer and test pilot to the Carrier Suitability Department of the U.S. Strike Aircraft Test Squadron also located at Patuxent River. While there, he conducted shore-based and shipboard testing of the F/A-18 Hornet. Frick was assigned to U.S. Strike Fighter Squadron 125 in Lemoore, California, USA preparing for return to a deployed F/A-18 squadron when selected for the NASA astronaut programme in April 1996.

Frick Has logged over 3,200 flight hours in 35 different aircraft, and has over 370 carrier landings.

### NASA Experience

Selected by NASA in April 1996, Frick reported to the Johnson Space Center in August 1996. Having completed two years of training and evaluation, he is qualified for flight assignment as a pilot. Initially, Frick was assigned technical duties in the NASA Astronaut Office Spacecraft Systems/Operations Branch. He completed his first space flight as pilot on the STS-110 mission, and has logged over 259 hours in space. Frick is assigned to command the STS-122 mission that will deliver the European Space Agency's Columbus Laboratory to the International Space Station.

### Space Flight Experience

STS-110 Atlantis (8-19 April 2002) was the 13th Shuttle mission to visit the International Space Station. Mission milestones included: delivery and installation of the SO (S-Zero) Truss; first manoeuvring of spacewalkers using the ISS robotic arm; and the first mission on which all spacewalks were based from the station's Quest Airlock. The crew prepared the station for future spacewalks and spent a week in joint operations with the Station's Expedition-4 crew.

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## NASA Astronauts: Alan Poindexter (STS-122 Pilot)



NASA astronaut Alan Poindexter. (Image: NASA)

### Personal Data

Born November 1961 in Pasadena, California, USA. Married and has two children. Recreational interests include motorcycling, running, weight lifting, water skiing, boating, hunting, and fishing.

### Education

Graduated from Coronado High School, Coronado, California, USA in 1979. Graduated with highest honors from Georgia Institute of Technology, USA with a Bachelor of Aerospace Engineering degree in 1986 and a Master of Science in Aeronautical Engineering from the U.S. Naval Postgraduate School in 1995.

### Organizations

Society of Experimental Test Pilots.

### Special Honours and Awards

NASA Aviation Safety Award and various U.S. service medals and awards.

### Experience

Poindexter was commissioned following graduation in 1986. After a short tour of duty at the Hypervelocity Wind Tunnel Facility, Naval Surface Weapons Center, White Oak, Maryland,

USA, Poindexter reported for flight training in Pensacola, Florida. He was designated a US Naval Aviator in 1988 and reported to Fighter Squadron 124, Naval Air Station Miramar, California, for transition to the F-14 Tomcat. Following his initial training, Poindexter was assigned to Fighter Squadron 211, also at Miramar, and made two deployments to the Arabian Gulf.

During his second deployment in 1993, he was selected to attend the U.S. Naval Postgraduate School/Naval Test Pilot School Cooperative Programme. Following graduation in December 1995, Poindexter was assigned as a Test Pilot and Project Officer at the Naval Strike Aircraft Test Squadron, Naval Air Station Patuxent River, Maryland, USA. While stationed there, Poindexter was assigned as the lead test pilot for the F-14 Digital Flight Control System where he logged the first carrier landing and catapult launch of an F-14 with the upgraded flight controls. He also flew numerous high angle of attack/departure tests, weapons separation tests and carrier suitability trials. Following his tour at Patuxent River, Poindexter reported to Fighter Squadron 32, Naval Air Station Oceana, Virginia, USA where he was serving as a department head when he was selected for NASA astronaut training.

Poindexter has more than 3,500 hours in over 30 aircraft types and has logged over 450 carrier landings.

### NASA Experience

Selected by NASA in June 1998, he reported for training in August 1998. Initially Poindexter served in the NASA Astronaut Office Shuttle Operations Branch performing duties as the lead support astronaut at Kennedy Space Center. Poindexter is assigned as pilot on the STS-122 mission that will deliver the European Space Agency's Columbus Laboratory to the International Space Station.

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## NASA Astronauts: Rex Walheim (STS-122 Mission Specialist)



NASA astronaut Rex Walheim. (Image: NASA)

### Personal Data

Born 10 October 1962, in Redwood City, California, USA. Married and has two children. He enjoys snow skiing, hiking, softball and football.

### Education

Graduated from San Carlos High School, San Carlos, California, USA in 1980; received a Bachelor of Science degree in Mechanical Engineering from the University of California, Berkeley, in 1984, and a master of science degree in industrial engineering from the University of Houston in 1989.

### Experience

Walheim was commissioned as a second lieutenant in the U.S. Air Force in May 1984. In April of 1985 he was assigned to Cavalier Air Force Station in Cavalier, North Dakota, USA where he worked as a missile warning operations crew commander. In October 1986, he was reassigned to the Johnson Space Center, Houston, Texas, where he worked as a mechanical systems flight controller and was the lead operations engineer for the Space Shuttle landing gear, brakes, and emergency runway barrier. Walheim was transferred to Headquarters

Air Force Space Command in Colorado Springs, Colorado, in August 1989, where he was manager of a programme upgrading missile warning radars. He was selected for the flight test engineer course at the U.S. Air Force Test Pilot School in 1991, and attended the course at Edwards Air Force Base California in 1992. Following his graduation, he was assigned to the F-16 Combined Test Force at Edwards where he was a project manager, and then commander of the avionics and armament flight. In January 1996, Walheim became a U.S. Air Force Test Pilot School instructor, where he served until he commenced astronaut training.

### NASA Experience

Walheim served as a flight controller and operations engineer at the Johnson Space Center from October 1986 to January 1989. He was selected by NASA in March 1996 and reported to the Johnson Space Center in August 1996. After completing two years of training and evaluation, he qualified for flight assignment as a mission specialist. Initially, Walheim was assigned technical duties in the Astronaut Office Space Station Operations Branch, where he helped develop the initial procedures and displays used on the space station, and served as a Capcom in the Mission Control Center. He served on the EVA crew of the STS-110 mission. After his first flight, he was assigned to the EVA branch, where he served as the astronaut office representative for the Extra Vehicular Mobility Unit, (the EVA spacesuit). Walheim is assigned as a mission specialist on the STS-122 mission that will deliver the European Space Agency's Columbus Laboratory to the International Space Station and will undertake all three spacewalks during the mission.

### Space Flight Experience

STS-110 Atlantis (8-19 April 2002) was the 13th Shuttle mission to visit the International Space Station. Mission milestones included: the delivery and installation of the SO (S-Zero) Truss; the first time the station's robotic arm was used to manoeuvre spacewalkers around the Station; and the first time that all of a shuttle crew's spacewalks were based from the Station's Quest Airlock. Walheim performed 2 EVAs totalling 14 hours and 5 minutes. The crew mechanically attached and powered up the new truss, and spent a week in joint operations with the Station's Expedition-4 crew.

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## NASA Astronauts: Stanley Love (STS-122 Mission Specialist)



NASA astronaut Stanley Love. (Image:NASA)

### Personal Data

Born 8 June 1965 in San Diego, California, USA. Married. Two children. Recreational interests include flying, alpine hiking, bicycling, music, and animation.

### Education

Graduated from Winston Churchill High School, Eugene, Oregon, USA in 1983; received a Bachelor of Science degree in Physics from Harvey Mudd College, Claremont, California, in 1987; received Master of Science and Doctor of Philosophy degrees in Astronomy from the University of Washington in 1989 and 1993, respectively.

### Organizations

American Astronomical Society; American Geophysical Union; American Institute of Aeronautics and Astronautics; Harvey Mudd College Alumni Association; Meteoritical Society.

### Awards

Various awards including the NASA Johnson Space Center Performance Award (2003, 2004 and 2006).

### Experience

As a graduate teaching assistant at the University of Washington in Seattle beginning in 1987, he taught and led laboratory sections for undergraduate courses in general and planetary astronomy.

He worked as a graduate research assistant at the University of Washington from 1989 to 1993 on a variety of projects including space propulsion and energy storage, stellar photometry and spectroscopy, analysis of space-exposed surfaces, hypervelocity impact and particle capture, atmospheric entry heating of micrometeoroids, infrared imaging of the zodiacal light, and electron microscopy of interplanetary dust particles.

Moved to the University of Hawaii in Honolulu in 1994 for a postdoctoral research appointment modelling the formation of meteoritic chondrules and the collisional evolution of asteroids, and investigating the possibility of meteorites from the planet Mercury. Awarded a prize postdoctoral fellowship at the California Institute of Technology in 1995: work there included computational fluid dynamic simulations of asteroid collisions, calibration of the Cassini spacecraft dust particle impact detector, and experimental shock compression of the mineral calcite. Transferred to the Jet Propulsion Laboratory as a staff engineer in 1997 to work on, for example, computer models of spacecraft optical instrument systems.

### NASA Experience

Selected by NASA in June 1998, he reported for training in August 1998. Love served as a CAPCOM (spacecraft communicator) in Mission Control for International Space Station Expeditions 1 through 7 and for Space Shuttle missions STS-104 (ISS-7A), STS-108 (ISS-UF-1), and STS-112 (ISS-9A). He served in NASA's Astronaut Office Exploration Branch, helping to develop future space vehicles and missions. Dr. Love is assigned as a mission specialist on the STS-122 mission that will deliver the European Space Agency's Columbus Laboratory to the International Space Station. Love will be a member of the third and final mission EVA or spacewalk, which will install the external experiment facilities EuTEF and SOLAR on Columbus.

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## NASA Astronauts: Leland Melvin (STS-122 Mission Specialist)



NASA astronaut Leland Melvin. (Image: NASA)

### Personal Data

Born 15 February 1964 in Lynchburg, Virginia, USA. Unmarried. Recreational interests include photography, piano, reading, music, cycling, tennis, and snowboarding. Loves walking his dogs, Jake and Scout.

### Education

Graduated from Heritage High School, Lynchburg, Virginia, in 1982; received a Bachelor of Science degree in chemistry from the University of Richmond, Richmond, Virginia, USA in 1986; and a Master of Science degree in Materials Science engineering from the University of Virginia in 1991.

### Organizations

National Technical Association, American Chemical Society, The Society for Experimental Mechanics.

### Special Honours and Awards

Various honours and awards including NASA Outstanding Performance Awards (8), and NASA Superior Accomplishment Award (2),

### NASA Experience

Melvin began working in the Fiber Optic Sensors group of the Nondestructive Evaluation Sciences Branch at NASA Langley Research Center in 1989 where he conducted research in the area of physical measurements for the development of advanced instrumentation for Nondestructive Evaluation. His responsibilities included using optical fibre sensors to measure strain, temperature, and chemical damage in both composite and metallic structures. Additional projects included developing optical interferometric techniques for quantitative determination of damage in aerospace structures and materials.

In 1994, Melvin was selected to lead the Vehicle Health Monitoring team for the cooperative Lockheed/NASA X-33 Reusable Launch Vehicle programme. The team developed a variety of sensors for the reduction of vehicle operational costs and to monitor composite liquid oxygen tank and cryogenic insulation performance. In 1996, Melvin co-designed and monitored construction of an optical Nondestructive Evaluation facility capable of producing in-line fibre optic Bragg grating strain sensors at rates in excess of 1000 per hour. This facility will provide a means for performing advanced sensor and laser research for development of aerospace and civil health monitoring systems.

Selected by NASA in June 1998, Melvin reported for training in August 1998. Since then he has been assigned to NASA's Astronaut Office Space Station Operations Branch, and the Education Department at NASA Headquarters, Washington, D.C. As co-manager of NASA's Educator Astronaut Programme, Leland Melvin travelled across the country, engaging thousands of students and teachers in the excitement of space exploration, and inspiring them to pursue careers in science, technology, engineering and mathematics. He next served in the Robotics Branch of the Astronaut Office. Melvin is assigned as a mission specialist on the STS-122 mission that will deliver the European Space Agency's Columbus Laboratory to the International Space Station.

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## NASA Astronauts: Daniel Tani (Expedition 16 Flight Engineer) (Descent only)



NASA astronaut Daniel Tani. (Image: NASA)

### Personal Data

Born 1 February 1961 in Ridley Park, Pennsylvania, USA. Married and has two children. He enjoys golf, flying, running, tennis, music, cooking.

### Education

Graduated from Glenbard East High School, Lombard, Illinois, in 1979; received a Bachelor and a Master of Science degree 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.

### 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.

He took over as flight engineer for Expedition 16 from Clayton Anderson after arriving at the ISS on the STS-120 mission in October 2007. He has performed three spacewalks and numerous robotic operations in support of the installation and checkout of Node 2 during his several months on the ISS, and will return on Shuttle Flight STS-122.