Proceedings of the Annual General Donald R. Keith Memorial Conference West Point, New York, USA May 3, 2018 A Regional Conference of the Society for Industrial and Systems Engineering



R. Shane Kimbrough Colonel, U.S. Army (Retired) NASA Astronaut

Summary: R. Shane Kimbrough was selected by NASA in 2004. He completed his first spaceflight in 2008 on STS-126, where he spent almost 16 days on the mission to expand the crew living quarters to accommodate a six-member crew. During the mission, he performed two spacewalks. Kimbrough earned a Master of Science degree from the Georgia Institute of Technology. Before being selected as an astronaut, Kimbrough joined NASA in 2000 as a Flight Simulation Engineer (FSE) on the Shuttle Training Aircraft (STA). Kimbrough flew on the Expedition 49/50 mission where he performed 4 spacewalks and has now logged in a total of 189 days in space.

Personal Data: Born June 4, 1967, in Killeen, Texas. Married to the former Robbie Lynn Nickels of Marietta, Georgia. They have three children. He enjoys baseball, golf, weightlifting and running. His father, Lt. Col. (ret.) Robert W. Kimbrough, resides in Hudson, Florida. His mother, DeAnn Johnson, resides in Fernandina Beach, Florida. Her parents, Robert and Carol Nickels, reside in Savannah, Georgia.

Education: Graduated from The Lovett School, Atlanta, Georgia, in 1985; received a Bachelor of Science degree in Aerospace Engineering from the United States Military Academy, West Point, New York, in 1989 and a Master of Science degree in Operations Research from the Georgia Institute of Technology in 1998.

Experience: Kimbrough graduated from West Point in May 1989 and was commissioned as a Second Lieutenant in the U.S. Army. He entered the U.S. Army Aviation School in 1989 and was designated an Army aviator in 1990. In late 1990, he was assigned to the 24th Infantry Division (Mechanized), Fort Stewart, Georgia, and was deployed to Southwest Asia, where he served in Operation Desert Storm. He served in the 24th Infantry Division as an attack helicopter platoon leader, aviation liaison officer and attack helicopter battalion operations officer. In 1994, he was assigned to the 229th Aviation Regiment (Attack) (Airborne) at Fort Bragg, North Carolina, where he commanded an Apache helicopter company as well as the Regimental headquarters company. After completing a Masters of Science degree at the Georgia Institute of Technology in 1998, he was assigned as an assistant professor in the Department of Mathematical Sciences at the United States Military Academy. Other military schools include the Army Parachutist Course, Army Jumpmaster Course, German Airborne Course, the Combined Arms Services Staff School and the Command and General Staff College.

NASA Experience: Kimbrough joined the NASA team at the Johnson Space Center (JSC) in September 2000. He was assigned to NASA's Aircraft Operations Division at Ellington Field in Houston, where he served as a Flight Simulation Engineer (FSE) on the Shuttle Training Aircraft (STA).

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Kimbrough was selected as an astronaut candidate by NASA in May 2004. In February 2006, he completed Astronaut Candidate Training that included scientific and technical briefings, intensive instruction in shuttle and International Space Station systems, physiological training, T-38 flight training and water and wilderness survival training. Completion of this initial training qualified him for various technical assignments within the Astronaut Office and future flight assignment as a Mission Specialist. Kimbrough completed his first spaceflight in 2008, logging a total of 15 days, 20 hours, 29 minutes and 37 seconds in space and 12 hours and 52 minutes in two spacewalks. Kimbrough served as the Chief of the Vehicle Integration Test Office (VITO) from June 2013 to June 2014 in the Flight Crew Operations Directorate as well as serving as the Robotics Branch Chief for the Astronaut Office.

Spaceflight Experience: STS-126 Endeavour (November 14 to November 30, 2008) launched at night from the Kennedy Space Center, Florida, and returned to land at Edwards Air Force Base, California.

It was NASA's 4th shuttle flight in 2008 and the 27th shuttle/station assembly mission. Highlights of the almost 16-day mission included expanding the living quarters of the space station to eventually house six-member crews by delivering a new bathroom, kitchen, two bedrooms, an exercise machine and a water recycling system. During the mission, Kimbrough performed two spacewalks, logging a total of 12 hours and 52 minutes. STS-126 also delivered a new resident to the station, replacing Greg Chamitoff, Expedition 17/18, with Sandy Magnus, Expedition 18. STS-126 returned to Earth after completing 250 orbits in over 6 million miles.

Kimbrough launched on October 19, 2016, as part of Expedition 49/50. He became the Commander of the International Space Station a week after he reached the ISS and remained so until he departed almost 6 months later. During Expedition 50, Kimbrough performed 4 spacewalks, logging over 26 hours. He now has a total of 6 spacewalks and over 39 hours outside the orbiting laboratory. Expedition 50 also experienced the arrival of 5 visiting vehicle spacecraft, which delivered thousands of pounds of experiments, supplies, and hardware to the ISS. Kimbrough and his 2 Russian cosmonaut crewmates Sergey Ryzhikov and Andrey Borisenko returned to Earth on the steppes of Kazakhstan on April 10th, 2017 to conclude their 173-day mission. Kimbrough now has a total of 189 days in space.

Awards/Honors: Captain of the West Point baseball team; First Team All-Conference Pitcher; Distinguished Graduate from the U.S. Army flight school; two Meritorious Service Medals; Army Commendation Medal; Army Achievement Medal; National Defense Service Medal; Southwest Asia Service Medal; Kuwaiti Liberation Medal; Saudi Arabian Kuwaiti Liberation Medal; Valorous Unit Award; Military Outstanding Volunteer Service Medal.

Organizations: Army Aviation Association of America; United States Military Academy Association of Graduates; Army Athletic Association; West Point Society of Greater Houston; Association of the United States Army.

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