



*Proudly Presents*



## Dr. NANCY J. CURRIE

Mission Specialist and Flight Engineer on the first International Space Station assembly mission

Friday, December 8<sup>th</sup>, 6:15 p.m.  
Beard-Eaves Memorial Coliseum

Dr. Nancy Currie has over 25 years of experience in aviation, space operations, and engineering. A retired Army Colonel and Master Army Aviator, she has logged over 4,000 flying hours in a variety of rotary-wing and fixed-wing aircraft. She received a bachelor's degree, with honors, in biological science from the Ohio State University in 1980, a master of science degree in safety engineering from the University of Southern California in 1985, and a doctorate in industrial engineering with an emphasis in automated systems and human factors engineering from the University of Houston in 1997. She currently holds an appointment as an Adjunct Associate Professor in the Department of Industrial Engineering at North Carolina State University.

Currie was first assigned to NASA-Johnson Space Center (JSC) as a flight simulation engineer in 1987. Selected as an astronaut in 1990, she is a veteran of four space shuttle missions and has accrued 1000 hours in space. She was a Mission Specialist and Flight Engineer on STS-57 in 1993; STS-70 in 1995; STS-88, the first International Space Station assembly mission in 1998; and STS-109, the fourth Hubble Space Telescope servicing mission in 2002. She has also served as chief of the Astronaut Office Robotics and Payloads- Habitability branches, chief of JSC's Habitability and Human Factors Office, and Technical Assistant for the Automation, Robotics and Simulation Division, JSC Engineering Directorate. Currie has used her expertise in space robotic systems operations to contribute to the



A long view from the shuttle out along the 50-foot robotic arm that Nancy Currie operates -- on the end of it is a foot platform where an astronaut can stand to be moved around by Currie during work.

development and analysis of human-robotic systems interfaces for advanced space systems. Following the Columbia tragedy in 2003, she was selected to lead the Space Shuttle Program Safety and Mission Assurance Office assisting with NASA's Return to Flight efforts. She later served as Vice President and Deputy General Manager for the Engineering firm of Jacobs Sverdrup, leading the Engineering and Science Contract in support of JSC's Engineering Directorate. Currie resumed government service in late 2005 as a Chief Engineer in JSC's Automation, Robotics, and Simulation Division. In September 2006, Dr. Currie was selected as the Deputy Director, JSC Engineering Directorate which is comprised of over 850 civil servant and 1600 contractor employees responsible for providing engineering design, development, test, and evaluation of hardware, software, and systems for human spaceflight programs including Space Shuttle, International Space Station, and Constellation.



Dr. Currie is the recipient of numerous military and NASA awards and honors including the NASA Outstanding Leadership Award, the NASA Quality and Safety Achievement Recognition Award, four Space Flight Medals, Defense Superior and Meritorious Service Medals, The Ohio State University Alumni of the Year Award, and was inducted in the Ohio Veteran's Hall of Fame.

## Dr. Currie and Robonauts

NASA is exploring the benefits of supplementing its workforce with robots. The Robonaut, a humanoid robot operated with a telepresence control system, is considered a workable candidate for space station repairs. The robot is being developed by the Robot Systems Technology Branch at the Johnson Space Center in cooperation with the Defense Advanced Research Projects Agency. It consists of a head, a torso, two arms, and two five-fingered hands designed with human-like dexterity. Robonauts, NASA reports, could work alongside humans or in environments considered too risky for people.

The Robonaut design was tested the summer of 2003 in working with human teams to assemble an aluminum truss structure. Astronaut Nancy Currie, who participated in the test, sees potential benefits to working with Robonauts on the International Space Station. "On the station, you could send a Robonaut or two out early to set up the work site, or leave them out late to clean up," she said. Normally two astronauts would be doing those tasks. The Robonauts are expected to be ready for work on the space station in three or four years, according to test conductor Robert Ambrose.



Robonaut working with astronaut Nancy Currie to build an aluminum truss. Photo courtesy of NASA.