2008 **Crew of STS Mission 126 (International)**

The crew of STS 126:
Christopher J. Ferguson, Commander NASA Astronaut
Eric A. Boe, Pilot, NASA Astronaut
Donald r. Pettit, Mission Specialist, NASA Astronaut
Stephen G. Bowan, Mission Specialist, NASA Astronaut
Heidimarie M. Stefanyshyn-Piper, Mission Specialist, NASA Astronaut
Robert s. Kimbrough, Mission Specialist, JAXA Astronaut
Sandra H. Magnus, ISS Flight Engineer, NASA Astronaut
International Space Station (ISS) Assembly Mission ULF-2 along with the Increment 18:
E. Michael Fincke, Commander, NASA Cosmonaut
Yury V. Lonchakov, Flight Engineer, RSA Cosmonaut
Gregory E. Chamitoff, Flight Engineer, NASA Astronaut

The success of the STS-126/Increment 18 mission was extremely significant in the assembly sequence of the International Space Station and the growth of the station to a 6-person crew through the addition equipment transferred from the Leonardo Multi-purpose Logistics Module (MPLM). Additionally, the crew successfully serviced the failed solar array rotary joint (SARJ) and returned it to full operability after performing a first-ever cleaning and lubrication of the assembly. The return of full solar array power capacity and furnishing the expanded living volume will greatly advance future human space flight operations.

Justification: The STS-126 mission began with a successful launch on November 14, 2008. While en-route to the International Space Station, the Endeavour crew executed multiple techniques to inspect vehicle's thermal protection system for any damage.

Following docking with the ISS, the Shuttle crew used the Space Station's robotic arm to lift the mission's primary cargo, the MPLM module from its berth in the payload bay and install it on the bottom (nadir) port of Node 2. Subsequently, this arm was utilized on the first spacewalk to transfer a Flex Hose Rotary Coupler and Nitrogen tank between the ISS and shuttle. Upon completion of the transfer of 18,000 lbs. of supplies and equipment, the Station's robotic arm was once again used to maneuver the MPLM into the shuttle's payload bay.

Additionally, during four spacewalks, the crews performed cleaning and lubrication of both the Port and Starboard Solar Alpha Rotary Joint (SARJ). About a year prior to this mission, the Starboard SARJ had suffered a material failure, but the crew's actions returned it to near full operational capability saving the program millions of dollars and extending the life of ISS. The Port SARJ was lubricated as a precautionary measure

Without the extraordinary skill of these astronauts during these space walks and MPLM transfer operation, the STS-126 mission to prepare the ISS for a 6-person crew would not have been a success.

The STS-126 mission was completed with a nominal landing on a temporary runway at the Edwards Air Force Base At 15 days, 20 hours and 30 minutes this was the longest flight to the ISS since construction began 10 years ago. This outstanding mission is highly deserving of the Korolev Diploma.