



# countdown

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## NASA extends assigned shuttle missions into 2009



### ◆ Shuttle Update:

NASA has assigned crews for the STS-127 space shuttle mission and the Expedition 19 International Space Station mission. STS-127, targeted to launch in 2009, will deliver the final components of the Japan Aerospace Exploration Agency's Kibo laboratory to the station. Expedition 19 will double the size of the resident crew on the complex, expanding it to six people.

Mark L. Polansky will command the shuttle Endeavour for STS-127. Marine Corps Lt. Col. Douglas G. Hurley will serve as the pilot. Mission specialists are Navy Lt. Cmdr. Christopher J. Cassidy, Thomas H. Marshburn, David A. Wolf and Julie Payette, a Canadian Space Agency astronaut.

The mission will deliver Army Col. Timothy L. Kopra to the station to join Expedition 18 as a flight engineer and science officer, and return Japanese astronaut Koichi Wakata to Earth.

◆ **ELV Update:** May 16 is the date targeted for launch of NASA's Gamma-ray Large Area Space Telescope, called GLAST, at 11:45 a.m. The telescope will have the ability to detect gamma rays in a range of energies from thousands to hundreds of billions of times more energetic than the light visible to the human eye. Radiation of such magnitude can only be generated under the most extreme conditions, thus GLAST will focus on studying the most energetic objects and phenomena in the universe.

The powerful space observatory will:

- \* Explore the universe's ultimate frontier, where nature harnesses forces and energies far beyond anything possible on Earth.

- \* Probe some of science's deepest questions, such as what our universe is made of, and search for new laws of physics.

- \* Explain how black holes accelerate jets of material to nearly light speed.

- \* Help crack the mystery of stupendously powerful explosions known as gamma-ray bursts.

- \* Answer long-standing questions across a broad range of topics, including solar flares, pulsars and the origin of cosmic rays.

NASA's GLAST mission is an astrophysics and particle physics partnership, developed in collaboration with the U.S. Department of Energy, along with important contributions from academic institutions and partners in France, Germany, Italy, Japan, Sweden and the U.S.

GLAST will be launched aboard a United Launch Alliance Delta II vehicle from Pad 17-B at Cape Canaveral Air Force Station. The first stage of the Delta arrived at CCAFS last week.

■ **NASA Pays Tribute to Fallen Astronauts With a Safety Exhibit** — If you haven't seen the exhibit that pays tribute to the crews of the Columbia STS-107 mission, the Challenger STS-51L mission and the Apollo 1 mission, you still have a week to do so. The exhibit focuses on safety and will be on display only until Feb. 21 in the lobby of the Operational Support Building I. NASA civil servants and contractors are encouraged

## Next telescope in space to search for new laws of physics

to take the time to visit the exhibit, which includes recovered Columbia hardware, and reflect on the importance of each person's contributions to safety in space-flight. The display will tour every NASA location this year.

■ **NASA Science** — Researchers will test a NASA-funded robotic probe under ice on Earth to demonstrate whether the probe's systems can operate in a similar environment on Jupiter's moon Europa. Testing will take place Feb. 12-15 in Lake Mendota on the campus of the University of Wisconsin, Madison.

The Environmentally Non-Disturbing Under-Ice Robotic Antarctic Explorer is a \$2.3 million project funded by NASA's Astrobiology Science and Technology for Exploring Planets Program. The probe is an autonomous underwater vehicle designed to swim untethered under ice, creating three-dimensional maps of underwater environments. The probe also will collect data on conditions in those environments and take samples of microbial life. Researchers then plan to ship the probe to a permanently frozen lake in Antarctica for operations later this year.

Science teams are developing and testing the technology for a possible future underwater exploration on Europa.

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