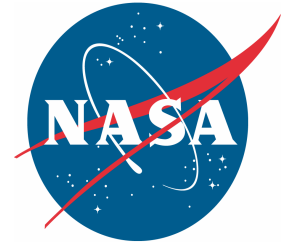


NASA Facts

National Aeronautics and
Space Administration
Washington, D.C. 20546
(202) 358-1600



FACT SHEET

February 2008

SPACE SHUTTLE ATLANTIS (STS-122)

Space shuttle Atlantis' upcoming 11-day mission will deliver a key component to continue construction of the International Space Station. During the first of three spacewalks, a laboratory module, known as Columbus, will be installed. The following day, astronauts will enter the European Space Agency's module for the first time, expanding the research facilities of the station and providing crew members and scientists around the world the ability to conduct a variety of life, physical and materials science experiments. The shuttle also will deliver a new crew member and bring back another astronaut after a nearly two-month mission.

CREW

	<p>Steve Frick Commander (Commander, U.S Navy) <ul style="list-style-type: none"> • Veteran of one spaceflight, pilot on STS-110 in 2002 • Age: 43, Hometown: Gibsonia, Penn. • Logged more than 3200 hours in 35 different aircraft </p>		<p>Alan Poindexter Pilot (Commander, U.S Navy) <ul style="list-style-type: none"> • First spaceflight • Age: 46, Hometown: Rockville, Md. • Married with two children • Enjoys water skiing, motorcycling and fishing </p>
	<p>Leland Melvin Mission Specialist-1 <ul style="list-style-type: none"> • First spaceflight • Primary operator of station robotic arm • Age: 43, Born: Lynchburg, Va. • Detroit Lions 11th round pick in 1986 NFL draft • Enjoys photography, tennis and snowboarding </p>		<p>Rex Walheim (WALL-hime) Mission Specialist-2 (Colonel, U.S. Air Force) <ul style="list-style-type: none"> • Crewmate of Commander Frick during STS-110 in 2002 • Will perform three spacewalks • Age: 45, Hometown: San Carlos, Calif. • Enjoys skiing, hiking and football </p>
	<p>Hans Schlegel (SHLAY-guhl) Mission Specialist-3 <ul style="list-style-type: none"> • European Space Agency astronaut • Will perform two spacewalks • Veteran of one spaceflight, STS-55 in 1993 • Age: 56, Hometown: Aachen, Germany • Married with seven children </p>		<p>Stanley Love Mission Specialist-4 <ul style="list-style-type: none"> • First spaceflight • Will perform one spacewalk • Age: 42, Hometown: Eugene, Ore. • Married with two children • Enjoys cycling, music and animation </p>
	<p>Léopold Eyharts (ā-arts) Mission Specialist-5 Expedition 16 Flight Engineer-2 <ul style="list-style-type: none"> • European Space Agency astronaut • Veteran of one spaceflight, to Mir in Feb. 1998 • Age: 50, Born: Biarritz, France • Returns on STS-123, targeted for March 2008 </p>		<p>Daniel Tani (TAW-nee) Expedition 16 Flight Engineer-2 Mission Specialist-5 <ul style="list-style-type: none"> • Launched to the station on STS-120 in October • Age: 46, Hometown: Lombard, Ill. • Returns to Earth on STS-122 • Enjoys golf, cooking and running </p>



The STS-122 patch depicts the continuation of the voyages of the early explorers to today's frontier, space. The ship denotes the travels of the early expeditions from the east to the west. The space shuttle shows the continuation of that journey along the orbital path from west to east. A little more than 500 years after Columbus sailed to the new world, the STS-122 crew will bring the European laboratory module "Columbus" to the station to usher in a new era of scientific discovery.

SPACEWALKS Each will last approximately 6.5 hours.

- On flight day 4, Walheim and Schlegel's main task will be to prepare the Columbus module for installation on Harmony. They will install the Power Data Grapple Fixture on Columbus, which will allow the space station's robotic arm to grab the module and move it from the shuttle's payload bay to Harmony. The spacewalkers also will begin work to remove the Nitrogen Tank Assembly, a part of the station's thermal control system, from the P1 truss. The assembly needs to be replaced because the nitrogen is running low.
- On flight day 6, Walheim and Schlegel will remove the old NTA and temporarily store it on an equipment cart. They will then install the new one. The old NTA will be transferred to the shuttle's payload bay for return home.
- On flight day 8, Walheim and Love will install two payloads on Columbus' exterior: SOLAR, an observatory to monitor the sun; and the European Technology Exposure Facility (EuTEF) that will carry eight different experiments requiring exposure to the space environment. The spacewalkers also will move a failed control moment gyroscope from its storage location on the station to the shuttle's payload bay for return to Earth.

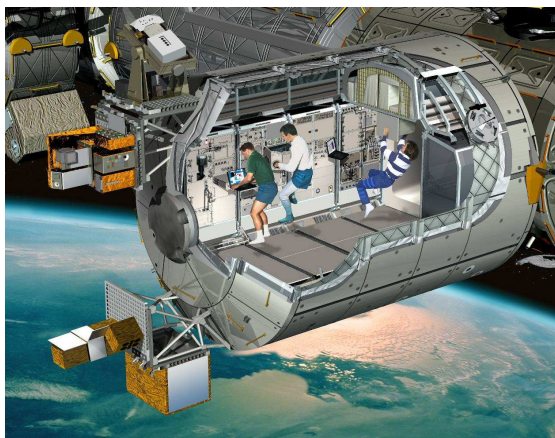


Figure 1: Crew can work experiments in the lab's racks

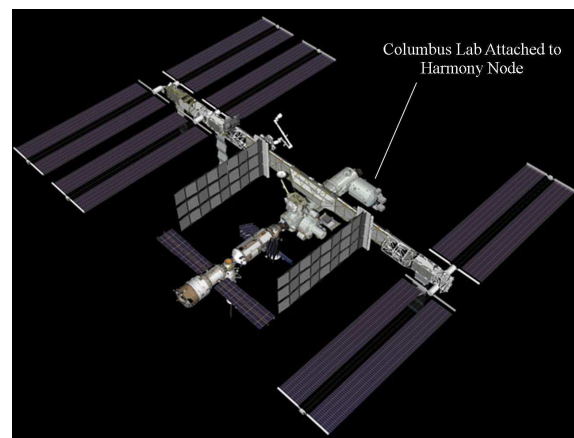


Figure 2: Space station configuration after STS-122

FACTS & FIGURES

- STS-122 is the 121st space shuttle flight, the 29th flight for space shuttle Atlantis and the 24th flight to the station.
- Flight day 4 will feature the 100th spacewalk devoted to space station assembly.
- Columbus is cylindrical shaped, 23 feet long and 15 feet in diameter. It has a mass of more than 22,700 pounds and a volume of 2,648 cubic feet. The laboratory will hold 10 racks of experiments, each approximately the size of a phone booth.
 - The lab is designed to host experiments examining how humans react to microgravity and the effect of space on various fluids and objects.
 - There are two stands bolted to the outside that can be used for research on materials and for unfiltered views of space.
- The ESA also built the Columbus Control Centre in Oberpfaffenhofen, Germany, to manage the research aboard Columbus.
- Three NASCAR flags will fly in honor of the 50th anniversaries of NASA and the Daytona 500.
- When the International Space Station is complete, it will have a mass of almost 1 million pounds, be larger than a five-bedroom house and measure 361 feet end-to-end.
 - The station has been permanently staffed with human occupants since November 2000.
 - The station orbits at an average altitude of 220 miles at an inclination of 51.6 degrees to the equator.
- Nearly 17,000 NASA civil servants and contractors across the country contribute to the agency's Space Shuttle Program.