Check Out The View From Space View Park

It's Titusville's "Front Row" for a Shuttle Launch If You Haven't Got A NASA Pass.

Come to Titusville when you're ready to watch a Space Shuttle launch. Get directions to Space View Park on the Internet at: **http://SpaceLaunchInfo.Com/spaceview.html**

When you buy postcards to send home, remember three extras - one for your Congressman, and one for each of your Senators. Let them know *you* were at the launch, and you want *them* to support the Space Program at budget time.

WAYMARKING

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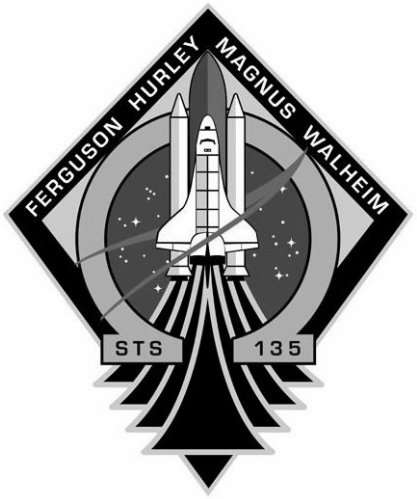
STS-135: The Final Mission`

Mission: ISS Flight ULF7
Orbiter: Atlantis
Launch Pad: 39A
Launch: July 8, 11:46 AM EDT
Landing: 14 days later
Orbit Altitude: 225 miles
Orbit Inclination: 51.60°
Crew:
Chris Ferguson - Commander
Douglas Hurley - Pilot
Sandra Magnus - MS 1
Rex J. Walheim, ESA - MS 2



The STS-135 patch represents the space shuttle Atlantis embarking on its mission to resupply the International Space Station. Atlantis is centered over elements of the NASA emblem depicting how the space shuttle has been at the heart of NASA for the last 30 years. It also pays tribute to the entire NASA and contractor team that made possible all the incredible accomplishments of the space shuttle. Omega, the last letter in the Greek alphabet, recognizes this mission as the last flight of the Space Shuttle Program.

While STS-135 is the last flightof the Space Shuttle Program, There will *still* be be eight to a dozen launches a year from the Canaveral Spaceport - just not manned launches for a while. Space satellites are still important in weather forcasting, communications, entertainment and national defense. When you ask the people at the launch pad, *no* launch is ever dull.

STS-135 Payload Overview

Space Shuttle Atlantis' STS-135/ULF7 payload includes the Raffaello Multi-Purpose Logistics Module (MPLM) and a Lightweight Multi-Purpose Carrier (LMC). The MPLM will carry supplies, logistics and spare parts to the International Space Station. The LMC will be used to return a failed Ammonia Pump for troubleshooting and analysis to help NASA better understand the failure mechanism and improve pump designs for future systems.

The mission also will fly the Robotic Refueling Mission (RRM), an experiment designed to demonstrate and test the tools, technologies and tech-niques needed to robotically refuel satellites in space, even satellites not designed to be ser-viced.

On the middeck of the orbiter, they will carry GLACIER (General Laboratory Active Cryogenic ISS Experiment Refrigerator), which is a freezer designed to provide cryogenic transportation and preservation capability for samples. The unit is a double locker equivalent unit capable of transport and operation in the middeck and in-orbit operation in the ExPRESS (Expedite the Processing of Experiments to the Space Station) rack. Atlantis will carry on its middeck a variety of experiments and hardware.

The total payload launch weight, not counting the middeck, is 31,015 pounds. The return weight is expected to be 28,606 pounds.

Local Radio Stations
WMEL 1300 AM
WMMB 1240 & 1350 AM
WIXC 1060 AM
WMFE 90.7 FM
K4GCC 146.940 MHz (Ham)

The International Space Station

Metaphorically speaking, the ISS (International Space Station) is a "Port Of Call" in the vast ocean of space. It's a place where six astronaut/cosmonaut/scientists live, and research in the micro-gravity of space. Crew members of Expedition 28 are from Russia, the US and Japan. Crews rotate about once every six months. They travel in three man Soyuz capsules launched from Kazakhstan. There are two Soyuz capsules attached to the ISS as transportation back to Earth.

Each tour of duty is known as an "expedition", quite similar in nature to research expeditions to other hard to reach, and live in environments, such as the South Pole, and underwater research stations. In fact, part of training for a tour on board the ISS includes living in a NOAA (National Oceanographic and Atmospheric Administration) research station 30 feet below the ocean surface in the Florida Keys. Many astronauts have remarked how similar the environments are in the way the individual is cut off from civilization, with a large support team available by radio.

In 2005, Congress declared that the Destiny Laboratory aboard the ISS would join the ranks of the great National Laboratories, such as those at Oak Ridge, Fermilab, the National Institutes of Health, and others. It was meant to open up the lab to other federal research work, which those labs accomplish, as well as being an inspiration to researchers far and wide.

The station is very large, and can be seen with the naked eye as it passes over the earth, appearing as a "moving star" under certain conditions. First, if you can't see stars, you can't see Earth orbiting satellites, so if it's cloudy when a "pass" is scheduled, you may as well go back indoors.

Next, you have to be in darkness while the satellite is still in sunlight (while it's not in the Earth's shadow). Therefore, you can only see satellites before dawn, or after dusk. To find out when these conditions are right for you, visit **Heavens-Above.Com**, run by DLR, a space research company in Germany that does work for the European Space Agency. Be sure to set your watch accurately! www.Time.Gov is set to the atomic clocks of the National Institute of Standards & Technology as well as the US Naval Observatory Master Clock.

The web links you want are at **SpaceLaunchInfo.Com**

Watching the Countdown

by Robert Osband

The countdown is actually the world's most complex "check-list". It starts at T-45 Hours four days before the launch (pronounced "T Minus 45" - that's "T" as in Time To Launch). That's *much* longer than 45 hours away, but there are many built-in "holds" in the count when things can be fixed, and still allow an on-time launch.

When you leave for your viewing site, turn on the radio for the news at the top of the hour, and see if they stopped "tanking". If they have not completed (or even started) filling the fuel tanks with liquid hydrogen fuel and liquid oxygen oxidizer, then you may as well turn around and head for the "Attractions", because there will be no launch today.

During the T-20 minute built-in hold, they will poll the Managers who will give their "Go" or "No-Go" report (usually "go"). It's during the hold at T-9 minutes when things get critical. The ones to listen for are "Weather" (who may not like the way the clouds are moving) and SRO.

The Superintendent of Range Operations (SRO) is the person responsible to watch for ships or aircraft traveling through the projected path of the Space Shuttle, or its jettisoned equipment. If the SRO is happy, then *everyone* is happy.

They can hold the count at T-5 minutes, and still launch ("Weather" likes to call for these), but at T-5 minutes, they call "Go for APU Start". When they start the Auxiliary Power Units to provide hydraulic power for gimballing (turning) the engines, and the rudder, they actually start consuming fuel. If they start the APU's, they actually plan to launch the shuttle.

That's not to say that the Ground Launch Sequencer computer handling the launch since the T-9 minute mark can't find a reason to stop the launch, or that the 4 on-board computers that take over at T-31 Seconds will not find a reason to shut down the launch - right up to the last half-second before Zero in the count. But chances are real good that they're going to "light the candle", and let the astronauts "take a ride up-hill".

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holds and scrubs sent as text messages,
send "JOIN LAUNCHHOLDS" to 8762
Details at http://SpaceLaunchInfo.Com/holds

And on your phone's web browser, visit:
http://**M.SpaceLaunchInfo.Com**

Meet The Crew of STS-135

Christopher Ferguson, Captain, USN Retired
Born September 1, 1961, in Philadelphia, PA. Married to the former Sandra A. Cabot. They have three children. Ferguson enjoys golf, woodworking and drumming for Max Q, a rock and roll band. He received a bachelor of science degree in mechanical engineering from Drexel University and a master of science in aeronautical engineering from the Naval Post-graduate School.

Douglas Hurley, Colonel, USMC
Born on October 21, 1966, in Endicott, New York, but considers Apalachin, New York his hometown. He is married with one child. Hurley's hobbies include hunting, cycling, and attending as many NASCAR races as possible. Hurley received a B.S.E.in Civil Engineering from Tulane University.

Rex Walheim, Colonel, USAF Retired
Born October 10, 1962, in Redwood City, California, but considers San Carlos, California his hometown. Married to the former Margie Dotson of Villa Park, California. They have two children. Walheim enjoys snow skiing, hiking, softball and football. Walheim received a bachelor of science degree in mechanical engineering from the University of California, Berkeley, and a master of science degree in industrial engineering from the University of Houston.

Sandra Magnus, Ph.D.
Born October 30, 1964, in Belleville, Illinois. Magnus enjoys soccer, reading, cooking, travel, water activities. Magnus received a bachelor degree in physics and a master's degree in electrical engineering from the University of Missouri-Rolla, and a doctorate from the School of Material Science and Engineering at the Georgia Institute of Technology.

View mission status updates on your mobile phone's web browser. Select menu choice 8 at:

http://SpaceLaunchInfo.Com/mobile

Meet The Crew of ISS Expedition 28

Commander Andrey Borisenko
Selected as a cosmonaut candidate in May 2003, Borisenko is the Expedition 28 commander aboard the International Space Station and was an Expedition 27 flight engineer.

Flight Engineer Ronald J. Garan Jr.
NASA Astronaut Ron Garan flew to the International Space Station aboard the Soyuz TMA-21 spacecraft to serve as a flight engineer for Expeditions 27 and 28. Garan previously visited the station as an STS-124 mission specialist aboard space shuttle Discovery in June 2008.

Flight Engineer Alexander Samokutyaev
Selected as a cosmonaut candidate in 2003, Alexander Samokutyaev traveled to the International Space Station aboard the Soyuz TMA-21 spacecraft to serve as a flight engineer for Expeditions 27 and 28.

Flight Engineer Sergei Volkov
Cosmonaut Sergei Volkov flew to the International Space Station aboard the Soyuz TMA-02M spacecraft to serve as flight engineer for Expeditions 28 and 29. Volkov commanded the Expedition 17 mission during his first spaceflight.

Flight Engineer Michael E. Fossum
NASA Astronaut Mike Fossum flew to the International Space Station aboard the Soyuz TMA-02M spacecraft to serve as flight engineer for Expedition 28 and as commander for Expedition 29.

Flight Engineer Satoshi Furukawa
JAXA Astronaut Satoshi Furukawa flew to the International Space Station aboard the Soyuz TMA-02M spacecraft to serve as flight engineer for Expeditions 28 and 29. This is Furukawa's first spaceflight.