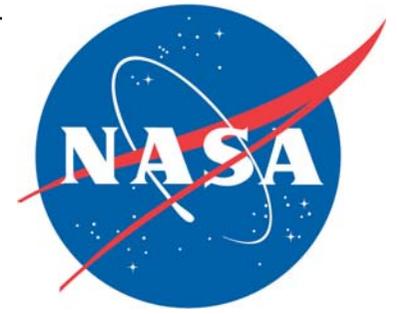


# Spaceport News



John F. Kennedy Space Center - America's gateway to the universe

[http://www.nasa.gov/centers/kennedy/news/snews/spnews\\_toc.html](http://www.nasa.gov/centers/kennedy/news/snews/spnews_toc.html)

## Space Shuttle Discovery at pad for December flight

### STS-116 mission in early December to rewire space station

NASA's Space Shuttle Discovery completed two milestones as workers continue preparing the orbiter for a December launch to the International Space Station.

On Oct. 31, drivers moved Discovery from the Orbiter Processing Facility to the Vehicle Assembly Building. Discovery, perched on top of the giant, 76-wheel orbiter transporter system, began moving out of the facility at 9:23 p.m.

In the assembly building, technicians attached Discovery to its propulsion elements, an external tank and twin solid rocket boosters. Following those operations, final integration, preparations and closeouts began in preparation for flight.

Discovery's next milestone was the 4.2-mile trip to Launch Pad 39B in preparation for its mission, designated STS-116. During the 11-day mission, the shuttle's seven astronauts will rewire the station to bring online new power supplies generated by solar arrays installed in September.

The coming missions to finish the International Space Station are among the hardest and most complex ever. But if you ask the astronauts and engineers which of the final 14 assembly flights may be the most complex, many would point to Discovery's next mission.

"What makes this one singularly unique is the fact that we're going to rewire the space station," said Mark Polansky, Discovery's commander.

Since it went into orbit in 1998, the space station has been running on a temporary electrical system. Lead Space Station Flight Director John Curry compared it to the way you might build a house

on the ground; until your electricity is hooked up, you probably plug your saws into a generator.

That's basically what the astronauts building and living on the station have been doing for the past eight years. But with the installation of two new electricity-generating solar array panels in September, all the pieces are now in place to switch to the permanent system.

At your house, it would just be a matter of unplugging the saw from the generator and plugging it back into the wall. But in space, it's not that easy.

NASA plans to send astronauts out on two spacewalks, each devoted to rewiring half of the station. The astronauts will

head outside, wait for the team on the ground to send commands to switch off the power, and then unplug the power cables and plug them in new places.

There might be the occasional stiff cable to deal with – that can happen in the minus 200 degrees Fahrenheit of space.

For the latest information about the Space Shuttle Program, visit <http://www.nasa.gov/shuttle>.



SPACE SHUTTLE Discovery rolls toward the Vehicle Assembly Building after leaving bay 3 of the Orbiter Processing Facility. First motion was at 9:23 p.m. on Oct. 31.



WITH ITS crane still attached, the orbiter Discovery is settled into place behind the external tank and solid rocket boosters on the mobile launcher platform in high bay 3 of the Vehicle Assembly Building.



**Jim Kennedy**  
Center Director

# The Kennedy Update

**H**i, everyone. Every successful organization has goals, whether it is my beloved Auburn Tigers football team as they try to position themselves for a top-tier bowl game or NASA as we safely fly the space shuttle until its retirement in four years. Those goals have to be taken one step at a time, with each milestone celebrated by those who achieve them.

Some focus may have shifted toward the repair mission for the Hubble Space Telescope, but I want to remind everyone that our immediate goal is to safely complete mission STS-116. As soon as the orbiter rolled onto the Vehicle Assembly Building's floor, technicians expertly performed final integration and closeouts for flight. Congratulations to the Shuttle Processing

team members as they rolled Discovery out to Launch Pad 39B this week in preparation for its early December launch.

Along with rewiring the space station, the STS-116 crew members will unload the P5 integrated truss segment used to connect the larger P3/P4 and P6 trusses. These connected segments will measure more than 300 feet when assembled.

There will also be other flights to safely fly before we repair Hubble in the fall of 2008, but I want to talk about that mission, as well. It was great to see how much the public endorsed Mike Griffin's announcement to make one final house call to this amazing orbiting telescope.

With five spacewalks and two new Hubble instruments, NASA will provide important knowledge

as scientists learn more about star formation histories.

Prior commitments kept me away from the STS-115 crew return last week, but based on the report from Deputy Director Bill Parsons, our work force walked away amazed after hearing about the fascinating accomplishments of the space station assembly mission. Commander Brent Jett and his heroic crew members were grateful to our employees for preparing them to succeed at such a complex mission.

Another successful NASA

of our employees with disabilities are annually celebrated. You can read more about the event in this issue, but I want to point out more than three million military personnel are disabled because of their service to protect our freedom.

Some of those disabled are beneficiaries of the Combined Federal Campaign, which wrapped up another very successful period yesterday. At press time, the campaign raised almost \$380,000 and showed how much our employees really care about our

**Commander Brent Jett and his heroic crew members were grateful to our employees for preparing them to succeed at such a complex mission.**

community. Thank you from the bottom of my heart for your compassion.

There is also much excitement around the center about the

chapter was started when the twin Solar Terrestrial Relations Observatories mission, better known as STEREO, successfully launched last month. I'm very proud of the Launch Services Program at Kennedy as it helps to continue our nation's exploration of the solar system.

I was privileged to attend the breakfast for the Disability Action and Awareness Working Group, better known as the DAAWG, where the valuable contributions

upcoming Family Day 2006 scheduled for Nov. 18. I suggest you take this special time to show your family and friends why we are so proud to enter these gates where America's dreams take flight.

I also encourage you to remember how thankful and blessed we all are during the upcoming Thanksgiving holiday.

Although you probably do this throughout the year, take the time to tell your loved ones how much they really mean to you. Take care.

## Take part in Disability Mentoring Day

**K**ennedy Space Center will celebrate Disability Mentoring Day on Nov. 14. If you are interested in participating, please verify with your supervisor that you are authorized to do so. Visit <http://nasa.ksc.nasa.gov/DAAWG/index.htm> to fill out the mentor

application form.

Forms should be sent to [patricia.j.gillis@nasa](mailto:patricia.j.gillis@nasa). All of the attendees are not necessarily high school students. A short orientation session will be scheduled to ensure all selected mentors are aware of center rules and policies.

## October NASA employees of the month



THE OCTOBER NASA employees of the month include, from left, Tim Saunders, Shuttle Processing; Janine Captain, Applied Technology Office; and Micheal Paraway, Chief Financial Office. Not pictured are Margaret Bruchs, Engineering Development; Tim Adams, Independent Technical Authority; Randy Weiss, Information Technology and Communications Services; Ed Hefley, Cape Canaveral Spaceport Management Office; Henry Harriel, Safety and Mission Assurance; Rodney Brown, Center Operations; and Claire Neptune, Launch Services Program.



SPACEPORT EMPLOYEES talk to two disabled students at last year's Disability Mentoring Day. This year's event is scheduled for Nov. 14.

# STS-115 crew returns to thank work force

By Linda Herridge  
Staff Writer

With one of the most challenging International Space Station assembly missions behind them, five of the six STS-115 crew members returned to Kennedy Space Center on Oct. 30 to share highlights and their experiences from the 12-day mission.

Using a combination of photographs and video from the mission, Commander Brent Jett, Pilot Christopher Ferguson and Mission Specialists Joseph Tanner, Daniel Burbank and Heidemarie Stefanyshyn-Piper described the launch, station docking, three spacewalks, working with the Expedition 14 crew, detaching from the station and landing safely at KSC. The sixth member of the crew, Mission Specialist Steven MacLean of the Canadian Space Agency, could not attend.

The video footage of the Space Shuttle Atlantis launch showed exceptional views of the external tank and solid rocket boosters during ascent. The footage also included inspection of the shuttle's thermal protection system using the orbiter boom sensor system prior to docking to the station.

Video shot by the station crew showed the shuttle performing a "flip" maneuver for inspections prior to station docking. "It's a team effort to dock the shuttle to the station," Jett said.

The astronauts also showed video of their spacewalks to attach the P3/P4 truss segments to the station and deploy the massive solar arrays to increase the station's power capability.

"Thanks for letting us share our mission highlights with you," Jett said. "We hope you felt like you were part of the mission."

Chris Burr, high bay 1 forward shop lead with United Space Alliance, said the crew's visit helped to charge him up for the next mission. "It was a great opportunity to see and hear things about the mission that you don't normally get to hear about," Burr said.

Wayne Kidd, with USA ground operations system software and a recent Space Flight Awareness Award honoree, said it was nice hear from the crew members and get their insight on the mission accomplishments.

"It was absolutely fantastic to see how the station is coming together," said Leon Wichman, a contracting officer with ASRC Aerospace Corp.



STS-115 COMMANDER Brent Jett (above) signs a crew portrait at the crew return held in the Training Auditorium on Oct. 30. At left, STS-115 Mission Specialists Joseph Tanner (sitting), Heidemarie Stefanyshyn-Piper and Daniel Burbank answer questions and sign autographs for the work force after the event.

Deputy Center Director Bill Parsons thanked the astronauts for sharing their stories with the KSC workers and presented each of

them with a special commemorative coin. Jett presented Parsons with a mission memento for the center.

## Kennedy employees complete leadership program

Twenty-four members of the 2005-06 NASA Leadership Development Program celebrated the completion of their developmental year with a ceremony at NASA Headquarters in Washington. Kennedy Space Center employees David Kruhm and Roland Schlierf were among those represented in this year's graduating class.

Schlierf has worked for NASA at the Kennedy Space Center since beginning as a co-op student in 1984.

"The program was a great opportunity for me to work in cultures other than NASA's and to gain new insights as I worked NASA issues from the other side of

the fence," Schlierf said. "I spent nine months at Patrick Air Force Base working NASA Range Safety issues from an Air Force perspective. I also spent three months at the Merritt Island National Wildlife Refuge working NASA shuttle bird abatement and related roadkill reduction goals from a U.S. Fish and Wildlife Service perspective."

Schlierf learned to speak up and act sooner rather than later, and to never be afraid of being known as "that guy" who is passionate about a specific thing and is willing to take a strong public stand on it.

In his address to the graduates, NASA Associate Administrator for

Institutions and Management Charles Scales noted that for NASA to meet the Vision for Space Exploration, "NASA leaders must first steer a new direction for the agency here on Earth. We must be better leaders of people, as well as technical experts, even though it may mean giving up control of what we loved to do ourselves. We must also learn to use the skills needed to tap into and nurture the creativity of every employee," he said.

Scales praised the class on the completion of their Agency-wide project, Management Tools and Integration Assessment.



KENNEDY EMPLOYEES David Kruhm (left) and Roland Schlierf were presented their NASA Leadership Development Program certificates from NASA Associate Administrator for Institutions and Management Charles Scales.

# NASA to make final house call to Hubble

Space shuttle astronauts will make one final house call to NASA's Hubble Space Telescope as part of a mission to extend and improve the observatory's capabilities through 2013.

NASA Administrator Michael Griffin announced plans for a fifth servicing mission to Hubble on Oct. 31 during a meeting with agency employees at NASA's Goddard Space Flight Center in Greenbelt, Md. Goddard is the agency center responsible for managing Hubble.

The flight is tentatively targeted for launch during the spring to fall of 2008. Mission planners are working to determine the best location and vehicle in the manifest to support the needs of Hubble while minimizing impact to the International Space Station assembly. The planners are investigating the best way to support a launch-on-need mission for the Hubble flight. The present option will keep Launch Pad 39-B at the Kennedy Space Center available for such a rescue flight, should it be necessary.

Griffin also announced the astronauts selected for the mission. Veteran astronaut Scott Altman will command the final space shuttle mission to Hubble.

U.S. Navy Reserve Capt. Gregory Johnson will serve as pilot. Mission specialists include veteran spacemen John Grunsfeld and Michael Massimino and first-time space fliers Andrew Feustel, Michael Good and K.

Megan McArthur.

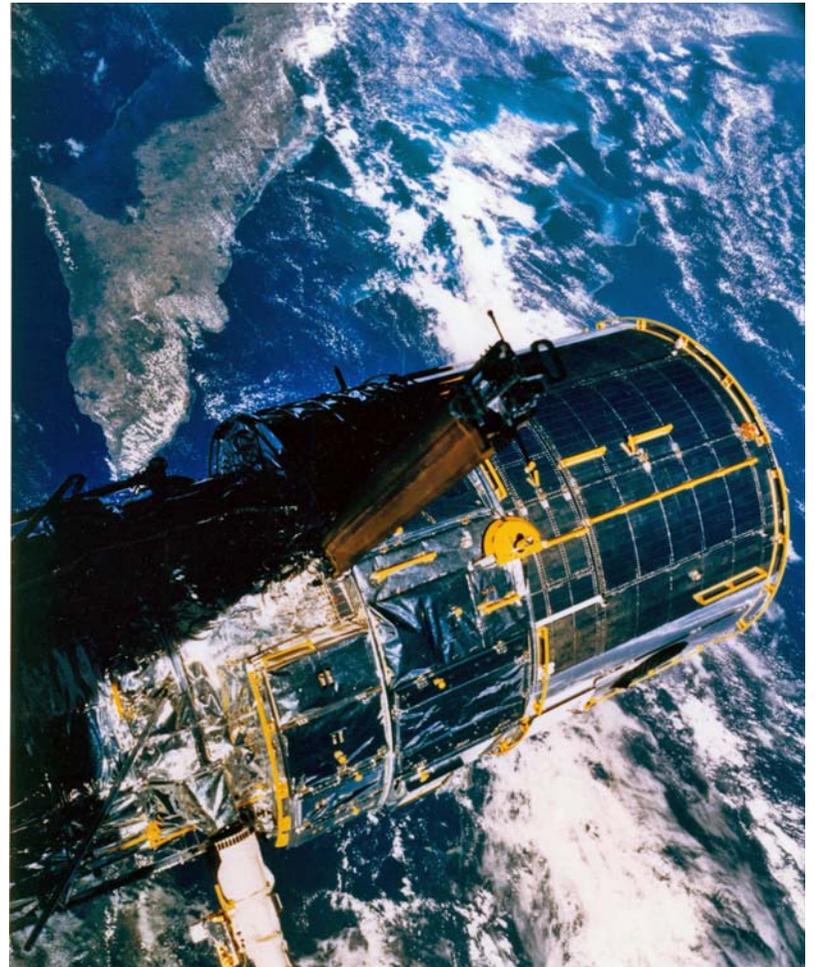
The two new Hubble instruments are the Cosmic Origins Spectrograph (COS) and Wide Field Camera 3 (WFC3). The COS is the most sensitive ultraviolet spectrograph ever flown on Hubble. The instrument will probe the cosmic web, the large-scale structure of the universe whose form is determined by the gravity of dark matter and is traced by the spatial distribution of galaxies and intergalactic gas.

WFC3 is a new camera which is sensitive across a wide range of wavelengths (colors), including infrared, visible and ultraviolet light. It will have a broad inquiry from the planets in our solar system to the early and distant galaxies beyond Hubble's current reach, to nearby galaxies with stories to tell about their star formation histories.

The Hubble servicing mission will be an 11-day flight. Following launch, the shuttle will rendezvous with the telescope on the third day of the flight.

Using the shuttle's mechanical arm, the telescope will be placed on a work platform in the cargo bay. Five separate spacewalks will be needed to accomplish all of the mission objectives.

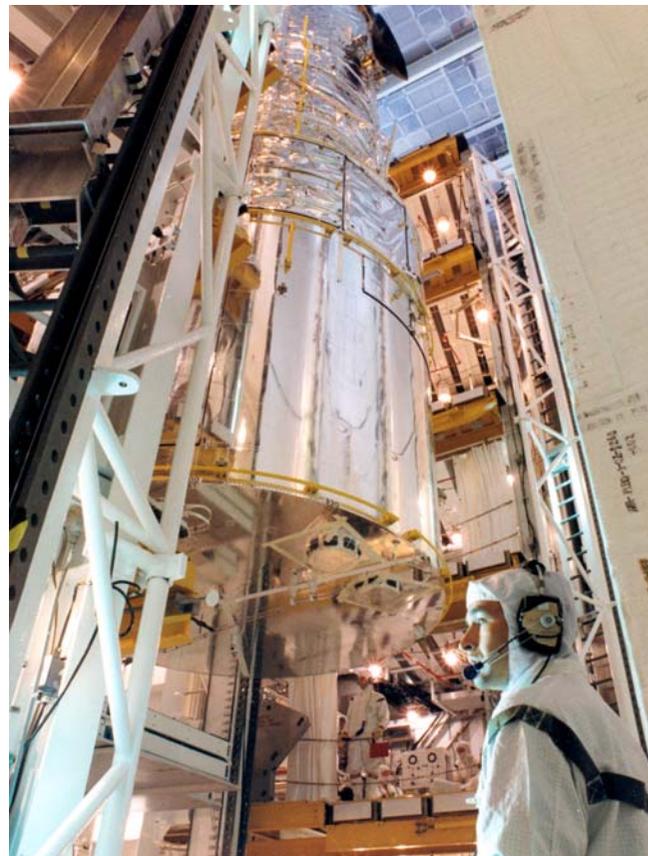
The Hubble Space Telescope is an international cooperative project between NASA and the European Space Agency. For more information about the mission and the Hubble, visit: <http://www.nasa.gov/hubble>.



THE HUBBLE Space Telescope, still in the grasp of Discovery's remote manipulator system, is backdropped over Cuba and the Bahama Islands. In this scene, it has yet to have deployed its solar array panels and its high-gain antennae.



IN THIS January 2002 picture, workers in the Vertical Processing Facility check the position of the Hubble Space Telescope's replacement Reaction Wheel Actuator on the Large Orbital Protective Enclosure.



THE BUS-SIZE Hubble Space Telescope is carefully transferred from the surgically clean Payload Changeout Room at Launch Pad 39B into the cargo bay of the orbiter Discovery.

# Hahn juggles 11.5 tons of space station hardware

By Anna Heiney  
Staff Writer

**D**eborah Hahn is a payload mission manager in the International Space Station/Spacecraft Processing Directorate at Kennedy Space Center. For each mission she manages, she directs the efforts of the mission processing team — a group of multidisciplinary engineers and technicians who assemble and test station components and experiments that fly aboard the space shuttle.

She handles multiple missions and elements at once.

“Our focus is to complete the station assembly,” Hahn says, adding that increasing the station’s infrastructure will in turn support more science research.

Hahn begins a typical day by updating station processing managers at Kennedy, followed by similar discussions with the station hardware office and the station program office, both located at Johnson Space Center in Houston. She also spends time each day in the high bay of Kennedy’s Space Station Processing Facility, where employees prepare station elements for flight.

A second-generation Kennedy employee, Hahn grew up in nearby Titusville. Her family moved to the area when her father, Tom Schehl, began working at Kennedy during

the Apollo era, in what was then called the Malfunction Analysis Lab.

When she graduated from the University of Central Florida in 1980 with a bachelor’s degree in engineering, he brought her a NASA job application. Hahn began her NASA career in the Design Engineering Directorate, working with checkout systems.

She transferred to the Payload Processing Directorate five years later and was promoted through several positions. Now in her second year as a payload mission manager, Hahn oversaw the preparation of the multi-purpose logistics module Leonardo that flew on Space Shuttle Atlantis during mission STS-121.

She’s also managing the European Columbus Laboratory Module set to launch on STS-122 next fall. Her attention is currently focused on her next mission, STS-116, set to launch in December to carry the P5 integrated truss segment to the station. The P5 truss will connect the larger P3/P4 and P6 trusses on the station’s backbone, which will eventually stretch more than 300 feet.

The 11-foot-long segment has been at Kennedy since its arrival in July 2001 for final processing and checkout.

The biggest change to the hardware since it was received at the center, Hahn says, is the

addition of an external wireless instrumentation system. Along with the P5 truss, Discovery will carry a SPACEHAB single laboratory module and an integrated cargo carrier with an assortment of hardware.

The payloads will be loaded into a large canister and transported to the launch pad. Once the elements are installed inside the awaiting payload bay, the team at Kennedy will check the connections between the payloads and the orbiter.

“After final inspection and closure of the payload bay doors, the team’s job is pretty much done,” Hahn explains. “It’s nerve-wracking. You’ve built up this momentum, and suddenly you’re just waiting.”

Hahn watches launches from a support control room near the firing room. Since most station payloads aren’t powered until they reach orbit, she simply monitors them during the countdown and the climb to space.

But the nail-biting doesn’t end with a successful ride to orbit. The mission team then waits for on-orbit operations to begin, and



DEBORAH HAHN is a payload mission manager in the International Space Station/Spacecraft Processing Directorate.

follows the performance of the cargo.

“That’s the beginning, when you get to actually realize the work that you’ve been completing,” she says. “It’s not until they get on orbit and they start putting it together or taking stowage out or whatever the actual operations are, and you say, ‘Oh, finally. It’s there!’ ”

## Launch Services Program honors Tatro for projects

By Jennifer Wolfinger  
Staff Writer

**C**huck Tatro successfully balanced many mission-critical projects last year, each of which usually requires its own manager. In recognition of his dedication and diligence, Tatro, a lead launch site integration manager at Kennedy Space Center, received the NASA Launch Services Program’s Employee of the Year award.

“I was very surprised and particularly touched because this was voted on by the entire Launch Services Program. It is particularly

meaningful when your peers recognize your contribution,” said Tatro. “It’s a privilege to work for NASA. How many people get to design huge spacecraft solar panels, or activate a launch complex in Kodiak, Alaska, and then launch the first rocket from that site?”

By working with spacecraft customers, he ensures that launch sites are equipped to successfully test and launch NASA spacecraft on expendable vehicles. Tatro is a consultant to the spacecraft team and provides advice on launch site capabilities and limitations, launch vehicle pad operations and

countdown procedures. He makes sure launch site integration managers at KSC are supporting their assigned missions successfully. Tatro also determines if new launch vehicle providers have considered the needs that NASA’s scientific spacecraft place on launch vehicles and sites.

His primary award-earning accomplishment is providing excellent support to the New Horizons mission which launched Jan. 19, including extensive planning and processing efforts for the launch site and spacecraft. He also addressed complex issues



CHUCK TATRO received the NASA Launch Services Program’s Employee of the Year award.

(See TATRO, Page 7)

# Disability Awareness and Action Working Group hosts breakfast

By Jennifer Wolfinger  
Staff Writer

At the Disability Awareness and Action Working Group's annual National Disability Employment Awareness Month Breakfast Oct. 27, Kennedy Space Center employees were reminded of the challenges many employees face.

Tara Gillam, Office of Diversity and Equal Opportunity manager, welcomed guests to the event at the Debus Center. Ivette Rivera sang and the Quiet Quartet signed the national anthem.

Gillam described a meeting she had with school officials to discuss the education of her son, Danny, who has hearing loss. He was frustrated that they were conversing as if he wasn't present and voiced his displeasure. From then on, they relied on him as a resource.

Center Director Jim Kennedy used sign language to say, "Good morning. I'm KSC and proud to be." He praised the group's successes, such as the 2006 All American Picnic booth, Disability Mentoring Day and Firing Room 4's new wheelchair lift.

"One in five Americans has some level of disability, so it's not a terribly rare thing. It's our job at KSC to make sure the other 80 percent become champions and advocates of the others achieving their dreams," said Kennedy, who attended the event even while his



THE FLORIDA School for the Deaf and Blind's dance troupe (above) performed at the Disability Awareness and Action Working Group's breakfast on Oct. 27. Below, Christopher Wagner, executive director of the Community Center for the Deaf and Hard of Hearing, talks to the crowd.



new grandchild was being born.

Kennedy said it's great to be in a country where the fact that we're all equal is the law of the land, and

applauded the three million military personnel who are disabled because of their service to protect our freedom.

John Creech's invocation encouraged attendees to realize they achieve together what they can't accomplish alone.

During breakfast, the Florida School for the Deaf and Blind's dance troupe signed songs and performed dance routines, even pulling KSC employees into the action. Guest Speaker Christopher Wagner followed. He is the executive director of the Community Center for the Deaf and Hard of Hearing of Manatee-Sarasota, Inc. and vice president of the National Association of the Deaf. Wagner is also deaf.

"There are 30 million deaf or hard of hearing people in the country and 2.1 million are in Florida. In 2030, that population will triple. We need to prepare," Wagner said using sign language, giving guests who have hearing an understanding of how it feels to be among the minority.

One of his related efforts was educating Florida Gov. Jeb Bush and television broadcasters that many people couldn't hear safety advisories regarding the 2004 hurricanes. The governor and networks immediately added closed captioning and, later, interpreters.

He also shared some common misconceptions, such as the belief that all deaf people can read lips and can't drive, and several historical contributions of deaf people, including baseball umpire signs and the light bulb.

## 2006 KSC Secretaries Picnic/Management Support Assistant Picnic



THE 2006 Kennedy Space Center Secretaries/ Management Support Assistant Picnic for civil servants and contractors was held Oct. 31 at KARS II. Melinda Bouchez led a team of volunteers to provide a delicious lunch complete with Halloween decorations.



# Remembering Our Heritage

## 16 years ago: Hydrogen leaks, tropical storm forced pad rollbacks in 1990

By Kay Grinter  
Reference Librarian

Any motion sickness reported by Kennedy Space Center's shuttle team in 1990 might be attributed to a serious case of "déjà vu." The space shuttle was rolled back from the pad three times that year, more than any other year in shuttle program history.

Hydrogen leaks and a tropical storm caused Columbia to be rolled to the pad three times before the launch of mission STS-35, and between pads once, as well, making it the "most moved" orbiter.

Columbia rolled to Pad 39A on April 22, then back to the Vehicle Assembly Building on June 12, over to the Orbiter Processing Facility on June 15, back to the VAB on Aug. 2, out to Pad 39A once more on Aug. 9, over to Pad 39B on Oct. 8, back to the VAB the next day, and out to Pad 39B once and for all on Oct. 14.

NASA alumnus Bill Clemens was lead systems engineer, assigned exclusively to the crawler transporter from 1965 to 1994. He was on the mobile launch platform for every one of Columbia's moves. "I'd rather have a root canal than relive 1990 again!" Clemens declared from his home in Titusville.

Columbia's first roll to Pad 39A on April 22 was an eventful one for Clemens and his team. Crawler Transporter No. 2 paused



SPACE SHUTTLE Columbia (left), slated for mission STS-35, is rolled past Space Shuttle Atlantis on its way to Pad 39A. Atlantis, slated for mission STS-38, is parked in front of bay three of the Vehicle Assembly Building following its rollback from Pad 39A for repairs to the liquid hydrogen lines.

during the roll when it reached its first 1,000-mile mark for a celebratory ceremony. "Some Apollo veterans were amazed that a crawler had accumulated that much mileage," Clemens recalled.

The first rollback was necessitated by the detection of hydrogen leaks in the MLP tail mast and the external tank/orbiter 17-inch quick disconnect assembly during tanking for Columbia's

first launch attempt on May 30. All repairs could not be made at the pad.

Another hydrogen leak sprung up during tanking for the second launch attempt on Sept. 18. Columbia was then moved to Pad B to make room for Atlantis, also "recovering" from hydrogen leaks in the VAB since Aug. 9, to return to Pad A. A special team was able to identify and fix Columbia's

problems, but not before Tropical Storm Klaus forced Columbia to roll back to the VAB Oct. 9.

Atlantis returned to Pad A on Oct. 12 with Columbia following close behind to Pad B on Oct. 14. With no leaks recurring, Atlantis launched on Nov. 15 on U.S. Department of Defense mission STS-38, and Columbia lifted off on Dec. 2 on mission STS-35 with the ASTRO-1 observatory aboard.

### TATRO . . .

(Continued from Page 5)

such as security, liability, hurricane damage repair, U.S. Department of Energy safety guidelines and documentation, radiation safety training and much more.

According to Tatro, the program continuously supports approximately 20 to 30 missions. He is the launch site integration manager for the Dawn and Lunar

Reconnaissance Orbiter/Lunar Crater Observation Sensing Satellite missions.

"I am always looking for an opportunity to lead a talented team and to spread the word about how exciting the unmanned NASA science missions are," he said.

"The Launch Services Program team will be very involved in development of the new Ares and Orion launch vehicles because they will be based on the expendable vehicles that we are flying

now."

He joined NASA at Glenn Research Center in 1984. He transferred to Kennedy Space Center in 1989 to work for the Space Shuttle Program.

During those early days, he would unwind during lunch breaks by running from the Launch Complex 39 pads to his Operations Support Building office. Before joining Launch Services in 1995, he worked in the Environmental Office.

Tatro holds a bachelor's degree in applied mechanics from the University of California, a master's in nuclear engineering from the University of Arizona, and a master's in engineering management from the University of Central Florida.

Previously captivated by solo sports, he now enjoys athletic pursuits with his supportive wife, Terry Ann, and sons, Case, 11, Evan, 8, and Tyler, 7.

# NASA's STEREO launches on two-year mission

NASA's twin Solar Terrestrial Relations Observatories mission, known as STEREO, successfully launched Oct. 25 from Cape Canaveral Air Force Station.

STEREO's nearly identical twin, golf cart-sized spacecraft will make observations to help researchers construct the first three-dimensional views of the sun. The images will show the star's stormy environment and its effects on the inner solar system, vital data for understanding how the sun creates space weather.

"The stunning solar views the two observatories will send back to Earth will help scientists get a better understanding of the sun and its activity than we've ever been able to obtain from the ground or any of our other missions," said Nick Chrissotimos, STEREO project manager at NASA's Goddard Space Flight Center in Greenbelt, Md.

The two observatories were launched on a Delta II rocket in a stacked configuration and separated from the launch vehicle approximately 25 minutes after liftoff. After receiving the first signal from the spacecraft approximately 63 minutes after launch, mission control personnel at the

Johns Hopkins University Applied Physics Laboratory (APL) in Laurel, Md., confirmed each observatory's solar arrays successfully deployed and were providing power.

During the next two weeks, mission managers at APL will ensure all systems are properly working. For the next three months, the observatories will fly from a point close to Earth to one that extends just beyond the moon's orbit.

After about two months, STEREO's orbits will be synchronized to encounter the moon. The "A" observatory will use the moon's gravity to redirect it to an orbit "ahead" of Earth. The "B" observatory will encounter the moon again for a second swing-by about one month later to redirect its position "behind" Earth.

STEREO is the first NASA mission to use separate lunar swing-bys to place two observatories into vastly different orbits around the sun. Just as the slight offset between human eyes provides depth perception, this placement will allow the STEREO observatories to obtain 3-D images of the sun.

The arrangement also allows the two spacecraft to take local

particle and magnetic field measurements of the solar wind as it flows by.

During the observatories' two-year mission, they will explore the origin, evolution and interplanetary consequences of coronal mass ejections, some of the most violent explosions in our solar system.

These billion-ton eruptions can produce spectacular aurora and disrupt satellites and radio communications. Energetic particles associated with these solar eruptions permeate the entire solar system and can be hazardous to spacecraft and astronauts.

Better prediction of solar eruptions provides more warning time for satellite and power grid operators to put their assets into a safe mode to weather

the storm. A better understanding of the nature of these events will help engineers build better and more resilient systems.



CLOUDS OF smoke and steam rise around the Delta II rocket carrying the STEREO spacecraft on top. Liftoff from Launch Pad 17-B at Cape Canaveral Air Force Station was at 8:52 p.m. on Oct. 25.

## Family, friends can tour spaceport at Family Day 2006

Viewing Space Shuttle Discovery on Launch Pad 39B will be one of the main attractions at the Kennedy Space Center and Cape Canaveral Air Force Station Family Day 2006 on Nov. 18.

"Launching the Future Together: A Family Celebration" is the theme of the event, which runs from 9 a.m. to 3 p.m.

This is the first opportunity for workers to bring family members and guests to the center to view operational and work areas since the Open House in 2000.

"It is so appropriate that our Family Day theme, launching our future together, represents the partnership between KSC, the 45th Space Wing, Cape

Canaveral Air Force Station and the Naval Ordnance Test Unit, as well as the support of our family and friends," said Center Director Jim Kennedy.

All badged KSC/CCAFS civil servant and contractor employees, and workers from the 45th Space Wing who possess a Common Access Card, may bring family members in their personal vehicle (no larger than a seven-passenger van). Badged workers must escort family members and guests at all times.

Special exhibits will be located in the Operations and Checkout Building mission briefing room. Most cafeterias will serve lunch and Exchange stores will be open. Tour route maps and a complete list of

facilities, exhibits and highlights are available for download and printing at <http://>

[familyday2006.ksc.nasa.gov/index.html](http://familyday2006.ksc.nasa.gov/index.html). For information, call 867-2343.



John F. Kennedy Space Center

### Spaceport News

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Managing editor..... Bruce Buckingham  
Editor..... Jeff Stuckey  
Copy editor..... Corey Schubert

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