



# Spaceport News

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John F. Kennedy Space Center

## Improved KSC lightning sensor system patented Device tested with triggered bolts

A highly accurate but yet relatively inexpensive lightning detection system developed at Kennedy Space Center has been patented this month and has attracted the attention of the private sector.

"The system, known as the Sonic Lightning Locator (SOLLO), was developed to determine the precise ground-strike point of lightning," said John Madura, chief of the NASA-KSC Weather Office, which funded SOLLO's development.

Within a 1-mile radius, the system can pinpoint a cloud-to-ground lightning strike within about 15 feet.

"The Cape Canaveral Spaceport has one of the most comprehensive weather monitoring systems in the world, but this new sensor system offers unprecedented accuracy for lightning detection within a small

area," Madura said.

SOLLO was designed to provide more precise information for determining whether sensitive equipment at the launch pads has been exposed to the effects of a lightning strike, said Terry Willingham, chairman of the KSC Lightning Safety Assessment Committee.

"We have sensors to help us determine when the vehicle is exposed to lightning, but we need a better way to determine whether sophisticated launch support equipment has been affected by electrical storms," he said.

The system could also be used to help judge whether a lightning strike may have had some effect on the Space Shuttle, a rocket or a payload on the launch pad.

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KSC's newly developed SOLLO lightning detection system has been patented and continues to be tested. Dr. Pedro Medelius (left), an electrical design engineer with KSC Engineering Development contractor Dynacs, Inc., is pictured with a rocket to be used to trigger lightning at the University of Florida's International Center for Lightning Research and Testing located at Camp Blanding. Dr. Medelius led the SOLLO invention effort. Above, lightning is successfully triggered by such a rocket to test the detection system.

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## Shuttle flow liner issue resolved

After six to eight weeks of extensive investigation and testing and searching for the cause of cracks in the orbiter fleet's engine liquid hydrogen flow liners, as well as how to deal with them, the decision was made to begin welding repairs on Atlantis.

Ron Dittmore, NASA Space Shuttle Program manager at Johnson Space Center, announced the decision and that the STS-112 mission is scheduled for launch no earlier than Sept. 28.

"We looked at a number of techniques and decided that welding was the repair technique of choice," said Dittmore. "Once welding repairs are complete to our



David Strait, Shuttle systems inspector with United Space Alliance, inspects a Space Shuttle Main Engine flow liner.

satisfaction, we will return to launch at the end of September or early October."

The small cracks found in the orbiters' flow liners were discovered in early June by Shuttle

inspectors. Flow liners are internal metal "collars" that smooth the flow of the cryogenic propellants through the Space Shuttle's main propulsion system.

David Strait, a Shuttle systems inspector with United Space Alliance, discovered the first crack in a liquid hydrogen flow liner to engine 1 in Atlantis June 12.

Strait's responsibilities include the inspection of all hardware installation and flight items required for orbiter processing. It was during a routine pre-engine installation inspection that Strait noticed the crack with the use of a

(See SHUTTLE, Page 3)

# Recognizing Our People

## KSC Technology All Stars recognized

The second Women of Color Government and Defense Technology Awards Conference and Professional Development Seminar July 18-19 offered professional development and recognized women leaders working for the government or Department of Defense.

Six Kennedy Space Center employees were honored.

The multicultural event recognizes the achievements and professional development of women in the fields of math, engineering, science and information technology.

Career Communications Group, Inc. and *U.S. Black Engineer and Information Technology* magazine hosted the conference at the Washington, D.C., Convention Center.

Several employees were nominated by NASA-KSC as certificate recipients.

The Kennedy Space Center women honored as "Technology All Stars" were Hortense Burt, flight assurance manager; Dr. Gena Baker, senior process engineer; Michelle Amos, electronics design engineer; Dr. Dawn Elliott, flight systems engineer; and Barbara



Women of Color Technology All Stars (from left) Dr. Gena Baker, Barbara Brown, Michelle Amos, Dr. Dawn Elliott, and Hortense Burt stand with Technology Rising Star Stacie Smith.

Brown, KSC's Ames Research Center liaison and Intelligent Systems deputy manager).

Also recognized was this year's "Rising Star" Stacie Smith, a computer engineer.

"The recognition of these six women as leaders in technology is evidence that KSC's diverse

workforce continues to be successful," said KSC Deputy Director James Jennings. "I'm happy to see that their contributions to the space program are appreciated by non-NASA organizations."

Carol Moseley-Braun, distinguished former U.S. senator from Illinois and ambassador to New

Zealand and the Independent State of Samoa, was the keynote speaker at the Technology All Star Recognition Luncheon.

She congratulated the recipients as they received their reward.

Topics of discussion included career success, use of technology to enhance organizational performance, use of information technology for strategic innovation, and privacy and security issues.

In addition, the conference included a workshop and welcome reception hosted by the Department of Defense.

More than 120 honorees participated in the conference.

They included representatives from numerous other government agencies such as the Department of Defense, the Federal Aviation Administration, the National Oceanic and Atmospheric Administration, and the Office of Personnel Management.

Representatives from the National Research Council, state government, and various companies from all over the U.S. involved in government contracts and defense work also attended the conference. Attendance was open to the community.



## August Employees of the Month

August Employees of the Month are (standing from left) Phil Swihart, Spaceport Services; Jim Draus, Launch Integration; Carlos Suarez, Chief Financial Office; (sitting from left) Angela Brewer, Shuttle Processing; and Teresa Lawhorn, Spaceport Engineering and Technology. Not shown are Joel Wells, External Relations and Business Development; Skip Swaney, ISS/Payloads Processing; and Tammy Harrington, ELV & Payload Carriers Programs.

# Larry Ellis retires following 37 years of service

Larry Ellis retired July 29 from his position as deputy director of International Space Station/Payloads Processing Directorate at Kennedy Space Center following 37 years of service with NASA.

"Kennedy Space Center changed my life," Ellis said. "Getting the job was one of the best things that ever happened to me. I got to participate in history in the making and made many lifelong friends. I devoted my career to building strong relationships and to become someone that could be counted on and trusted. It made my work experience even more rewarding."

Ellis began his NASA career at KSC in 1965 and held numerous, progressively more responsible positions. He served in positions including lead Orbiter project engineer, chief of the Project Engineering Office at Vandenberg Air Force Base, and chief of Shuttle Project Engineering.

After his start with the Gemini program, he worked on Apollo, Apollo/Soyuz, Skylab, Viking, Shuttle, Expendable Launch Vehicles and the ISS.

Notably, in 1989, Ellis was appointed deputy director of Shuttle Operations and his responsibilities included operational management and technical direction of all pre-launch, launch, landing and recovery operations for KSC Space Shuttle Vehicles.

In May 1990, he organized the Project Development Office, performing the overall project management of major launch and landing projects.

From 1992 to 1995, Ellis was deputy manager of the Launch and Landing Projects Office and was



Larry Ellis, former deputy director of ISS/Payloads Processing, is pictured speaking at his retirement picnic. Tip Talone, directorate head, looks on.

responsible for Shuttle functions associated with budget contracts, weather, project development, program integration, mission manifest, logistics and supporting elements. Also, in early 1994 he had a special assignment at Johnson Space Center in the Space Station Program, Operations and Utilization Office where he was involved in the definition and planning of how the International Space Station would be operated for phases II and III.

From 1995 to 1998, he was director, Process Integration, and was accountable for the management, integration, operations research and landing and recovery operations of the Shuttle at KSC.

In addition, Ellis provided test team management and engineering support for the launch execution team and facility ground systems.

From July 1998 until January 1999, Ellis served as director, Expendable Launch Vehicle Services, and was responsible for providing launch services to NASA-sponsored missions, including the Pegasus, Delta, Titan

and Atlas programs.

After 33 years at KSC, Ellis relocated to Stennis Space Center in January 1999 to serve as deputy director of the Propulsion Test Directorate.

In that capacity, he was responsible for providing propulsion test services for the agency until September 2000, when he assumed the duties of director of Center Operations and Support.

A year ago, Ellis was reassigned to KSC as deputy director of ISS/Payloads Processing, serving with his longtime friend and colleague Tip Talone, director of ISS/Payloads Processing.

"It was through great personal sacrifice and dedication Human Space Flight that Larry came back to help us out. But that was typical of his dedication to Human Space Flight," Talone said. "Because of his efforts this directorate is much better organized and runs more efficiently than before."

As deputy director, Ellis was responsible for Director-level policy, guidance, and decision

making on several ISS projects. In addition, he provided support to Talone as an alternate manager/lead as required for support of ISS activities.

Ellis' responsibilities included directorate representation for several Program Boards, including: the International Space Station (ISS) Program Board, Cape Canaveral Spaceport Customer Focus Team, Program Management Council, and Agency Strategic Resources Review.

"Larry and I worked together for some 20 plus years," Talone said. "Sometimes I worked for him and sometimes he worked for me. We always did a much better job as a team than we would have individually. We will greatly miss him."

Ellis received an Exceptional Service Medal in 1982 and 1989 for his significant contributions in the Orbiter post-landing and recovery procedures at Dryden Flight Research Facility and STS-3 landing at White Sands, New Mexico, and his contributions to the successful return to flight with the launch of STS-26. In addition, he received the Presidential Meritorious Executive Award for his long-term accomplishments in government services.

Born in Defuniak Springs, Ellis graduated in 1969 from Auburn University with a bachelor of science degree in electrical engineering.

Larry and his wife, Rogene, reside in Rockledge and are the parents of two children and two grandchildren.

"As I move forward with the rest of my life, I will always treasure my time at the Spaceport and wish it the best of times," Ellis said.

## SHUTTLE ...

*(Continued from Page 1)*

flashlight and the naked eye. He investigated further using a boroscope to confirm that the problem was a crack.

Referring to Strait's discovery of the first crack and alerting management to the problem, Dittmore said, "The guy is an absolute star. He was inspecting the line and saw something unusual, something not

obvious. People like this and others who are representative of the workforce in the Space Shuttle program keep the Shuttles safe and the astronauts safe and the program running safely."

Dittmore said the team selected to perform the repairs are the best of the best, drawn from existing NASA and contractor workforce with extensive welding and engine hardware experience.

"The skill required for this work

is impressive," he said. "They're at KSC right now getting the work done."

The welding technicians will repair the flow liners using a welding technique they have tested off-line until achieving satisfaction.

"The Space Shuttle Program has the best team of engineers in NASA working the flow liner problem. The KSC system engineers are actively supporting identification of the safest possible

solution and are preparing the vehicles to return to flight as soon as possible," said Roy Bridges, KSC Center Director.

Commenting on the teamwork of the engineers working to repair the flow liner cracks, Strait said, "I am amazed at how USA works together as a team to resolve issues of this magnitude. I am very confident with the actions and decisions that have been made and cannot wait to see the next Space Shuttle lift off."

# KSC spawns ac

## Center's marine environment studied with hydrophones, other high-tech sensors

A study using the technology of underwater microphones in the waters surrounding Kennedy Space Center is revealing interesting characteristics about marine life and environmental conditions, according to Dr. Grant Gilmore Jr., a senior aquatic scientist with Dynamac Corp. at KSC.

Gilmore, who has conducted fish ecological studies at the Indian River Lagoon and KSC for more than 30 years, began recording fish sounds at KSC 10 years ago.

In 1999, he began a new phase of studies using a hydrophone – a specially-designed underwater listening device – to record the spawning calls of fishery species, as well as communication in manatees and bottlenose dolphin. According to Gilmore, the sounds some fish produce are as loud as a car horn from 15 feet away.

“The hydrophones can be lowered to ocean depths of 600-3,000 feet. They are attached to cables and allow us to hear underwater sounds from a boat at the water’s surface. We can record the sounds on tape recorders or directly to a computer up to 24 hours a day,” said Gilmore.

Gilmore’s team, which includes Steve Van Meter and Michael Lane of NASA’s Test and Analysis Branch of Spaceport Engineering and Technology, currently work with four to five portable hydrophones, with plans to deploy at least 12 tag receivers in the future.

Two tag receiver hydrophones are on the continental shelf right now recording data from tagged fish.

“We will examine these hydrophone-computer systems every month. Eventually we hope to have a permanent hydrophone array at KSC,” Gilmore added.

The study’s first phase identified fish spawning sites. Currently, the study is in the technology development phase as researchers build new technologies to listen and view underwater animals carry out their normal activities. Gilmore’s team is developing hypotheses as to why fish spawn where they do.

“We now know that spotted seatrout spawn not too far from Shuttle Launch Pad 39A, possibly because of the deep topography there, but also because it is a protected area. Our studies are valuable to fishery management,” Gilmore said.

The team plans to map all spawning sites for fishery species at KSC and hopes to put the results up on a KSC website.

“The biological activities recorded by the hydrophone arrays, coupled with the physical parameters of NASA’s Jet Propulsion Laboratory Sensorwebs, deployed in the lagoon near Launch Pad A, will be a powerful series of tools for both marine biologists and oceanographers of the future,” he said.

“Undersea assessment systems will become more valuable as new technology development continues in this century. Once NASA/KSC has developed these technologies: acoustics, robotics and sensor systems, we should have one of the most powerful, protected underwater research sites in the world,” said Gilmore.

“The combination of NASA’s high tech capabilities and the highly productive and diverse Florida aquatic environment is a unique and exciting combination.” Gilmore concluded, “The future of our work at KSC should prove to be more exciting than ever.”



Dynamac Senior Aquatic Scientist Grant Gilmore (left) checks one of JPL Sensor Web pods (right), NASA’s Steve Van Meter and Mark Lane Purdy, a summer intern, install one of the pods.



Dr. Grant Gilmore is picked up from the shore by Mark Lane, who leads the summer intern.



The Sensor Web deployment team works on a pod near a Shuttle Launch Pad.

# quatic research

## JPL-developed monitoring technology tested at KSC



New monitoring technology developed by scientists at NASA's Jet Propulsion Laboratory (JPL) in Pasadena, Calif., has found a research and testing home at Kennedy Space Center, thanks to a cooperative effort between the two centers.

Dr. Kevin Delin, project manager for the JPL Sensor Webs Project, said the main purpose is "to test the new technology in KSC's very unique environment and show its value for environmental monitoring."

The "pods" that make up the web are constructed of molded plastic and measure about 2.5 inches high, 4 inches wide and 6 inches deep and contain sensors, radio chips and a microcontroller.

Although the technology is being tested in other locations, including the Huntington Botanical Gardens, the Sensor Web at KSC is the first to be deployed at another NASA center and in an aquatic environment.

According to Delin, the Sensor Web technology at the Huntington Botanical Gardens measures temperature, relative humidity, light levels and soil conditions.

The plans at KSC included the installation of 14 pods atop 12-foot high poles at designated locations around Launch Pad 39A, said Mike Lane, a NASA electrical engineering technician who coordinated the deployment efforts. The pods will communicate with each other and relay information back to a primary, or "mother," pod.

Lane said the pods are spaced from 92 to 164 feet apart. Thirteen pods and the "mother" pod are now installed near the Pad 39A culvert. The web will expand as other pods are installed at selected locations in the water around the launch pad in the northern Banana River Lagoon.

"The sensor pods will allow us to

look at the progression of the water going back and forth in this area, which is something we haven't been able to do with regularity. It's the beginning stage of the aquatic research project here at KSC," Lane commented.

Delin said the pods can be used to measure and record physical data 24 hours a day, including water quality and level, temperature, flow rates, salinity and dissolved oxygen levels, even during Space Shuttle launches.

According to Dr. Grant Gilmore, a senior aquatic scientist with Dynamac Corp., "We can select which pods will measure which attribute, vary the sensors, and communicate to the pods to take specific sensor readings." Gilmore became interested in the technology after attending a JPL presentation.

Cristina Guidi, a NASA advanced concepts manager at KSC, initiated and helped coordinate the joint effort, along with Gilmore, because it benefits both Centers and works towards NASA Administrator Sean O'Keefe's vision of "One NASA."

"Applying JPL Sensor Web technology to KSC ecological research efforts provides us with a continual 'virtual presence' within our ecosystem to gain a better understanding of the long-term trends while also minimizing the workload of collecting the required ecological data," Guidi said.

"KSC provides an excellent field test site for the Sensor Web so that JPL can further develop the robustness of their instrument," she continued.

Sensor Webs will be to sensors what the Internet is to computers," Delin said.

Near-term plans include uplinking the real-time, streaming Sensor Web data to the Internet as is already done at the Huntington Gardens.

"This is the way we should be monitoring environmental conditions and biological activity in the future," Gilmore concluded.



the Web Sensor deployment effort, and Rober Purdy, a



ch Pad.

# Hurricane activity often increases in August

Storm, storm, go away, come again some other day.

While wishful thinking may make you feel better, it is no substitute for good hurricane preparedness.

The official hurricane season began June 1 and the Atlantic Ocean has already had one tropical storm. But hurricane activity usually increases rapidly in August.

If you haven't already made your hurricane preparations, you're late. But there's still time to get ready if you begin immediately.

Early preparation is the key to a smooth survival of a threatening hurricane.

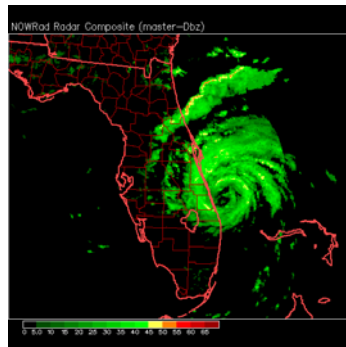
The day before landfall is the wrong time to fight the crowds at the stores, just to find out the materials you need are sold-out. So plan your work, and work your plan.

Even if the tropical cyclone is making landfall 200 miles away, you still need to be ready.

Tornadoes frequently occur in the rain-bands, which can extend far from the "eye."

These tornadoes are most likely when the rain-band thunderstorms make landfall, making our coastal location especially dangerous.

Rain-bands can also cause local flooding. Both the tornado and flooding threats apply to tropical



Even hurricanes that don't directly hit KSC, like Erin pictured above, can be dangerous and do damage.

cyclones crossing the Florida peninsula and approaching from the west, or storms that have already have passed us by.

In 1995, while Hurricane Erin was on the other side of Florida exiting into the Gulf of Mexico, it dropped eight inches of rain over the Space Coast in just a few hours, causing local flooding. The storm doesn't have to be a full-fledged hurricane to be dangerous.

Tropical storms can cause flooding or tornadoes. Even tropical depressions can cause flooding.

In hurricane preparedness, lead-time is everything.

Questions that you should have the answers to:

- Do you have materials to protect

your house, like plywood, screws, tools, or hurricane-rated shutters?

- Do you have food and water ready for everyone in family for five days? You need at least a gallon of water per person per day. Ready-to-eat food is recommended, since cooking may be difficult.

- Do you have a manual can opener and other utensils?
- Are your important documents together so you can bring them with you if you evacuate? Such documents include birth certificates, wedding certificates, insurance policies, computer disks, and a record of household goods. Seal them in secure waterproof bags or containers.

Helpful hint: A videotape is a fast way to record your possessions.

- Do you have cash on hand? Automatic teller machines may not work for days or weeks after the storm. Credit cards and checks may not be accepted.

Make sure you have enough cash to handle emergencies. Travelers checks are safer. Helpful hint: With automated deposit of your paycheck and payment of expenses, you can avoid hassles if you're out of the area.

- Do you have a cell phone? Radio towers may survive when phone

lines don't.

- Is your car well-maintained with good tire pressure and a full tank of gas?
- How will you care for your pets? Nearly all evacuation shelters won't let animals in, nor will many hotels.
- Can you easily get together needed supplies? Bring clothes, bedding, and hygiene products.

Don't forget flashlights and spare batteries. A fully stocked first-aid kit is vital.

Bring enough prescription medicines for 30 days.

- What is your evacuation route? All drivers in your family should drive it in daylight before the hurricane season, to reduce chances of wrong turns at night and/or in heavy rain.

Being ready to evacuate as soon as possible can save you considerable hassle if you can beat the mass of evacuating traffic.

Helpful hint: Scout out several hotels at several locations. Call days ahead for reservations when hurricanes threaten, then cancel the reservation if not needed.

Hurricane preparedness briefings are available from the KSC Emergency Preparedness Office (321) 853-6861 and the 45th Weather Squadron (321) 853-8410.

## LIGHTNING ...

(Continued from Page 1)

The sensor system is on a list of upgrades planned for implementation at KSC but not actually budgeted for operational installation at the pads until the research and development project is complete.

Dr. Pedro Medelius, an electrical design engineer with KSC Engineering Development contractor Dynacs, Inc., led the system invention effort.

Stan Starr, Dynacs chief engineer, developed the models for the mathematical algorithms used to determine the location of the lightning strike.

Medelius has been involved with lightning research since 1983 and has designed various instruments

to monitor electromagnetic fields and their effects.

SOLLO is being tested using "rocket-triggered lightning" at the University of Florida's International Center for Lightning Research and Testing located at Camp Blanding, an Army National Guard facility in north Florida near Starke.

A high-tech version of Ben Franklin's key-on-a-kite-string experiment, a small composite rocket, about 4-foot tall with a spool of thin copper-Kevlar wire attached to it, is launched from an elevated platform when electric fields on the ground reach a high level. As the rocket reaches about 2,000 feet, a lightning strike occurs initiated by the trailing wire which is vaporized by the strike.

The SOLLO system utilizes both the electric field generated by the

lightning strike and the thunder impulse received at multiple sensors to precisely locate the attachment point to ground.

The main advantage of testing the sensor system with triggered lightning is that the location of the lightning strike is known, since it normally occurs at the point where the wire trailing the rocket is connected to the ground.

This can be used to test and verify the accuracy of the sensors and their associated mathematical algorithms.

"What makes the SOLLO system unique is that it uses both the electric field and the thunder to help determine the precise location of the strike," Medelius said.

The detector consists of an electric field antenna and four sensors surrounding it set 20 feet

apart. It uses a "time of arrival" system, which compares the precise differences in time between when the lightning's effect is first detected at the electric field antenna and when the thunder arrives at the four receiver sensors. This occurs at each sensor at different times, depending how far each is from the strike within a one-mile area.

The new spaceport technology offers many potential benefits to the public as well as to private industry concerned about the cost of expensive high-tech equipment.

Potential users include airports, utilities, insurance companies, golf courses and amusement parks. Several companies are investigating licensing the technology through KSC's Technology Commercialization Office.

# Summer interns finish work, depart Center

While it may seem like Kennedy Space Center's education program students left as soon as they got here, it didn't stop them from achieving great accomplishments.

Whether it was shadowing employees or producing the very events that would bid themselves farewell, the participants and KSC ended the summer with lasting memories.

On July 24, interns and mentors representing nearly 20 education programs packed the Debus Conference Facility at the KSC Visitor Complex for the 2002 Summer Interns Luncheon.

"Our summer luncheon this year was such a successful event – students representing five programs formed a team to put together the agenda and another team developed the final presentation. The students also demonstrated that they are not only the best of the best in their academic endeavors, but they have so much other talent," said Pam Biegert, chief of Education Programs and University Research Division. "It was an inspirational end to a very productive summer. The support that KSC, and especially the mentors, provides to these students is fantastic and this was a great way for the students to say thank you to their mentors and for us to recognize the contributions the students make to KSC."

The students' talents were evident in the poetry readings, musical performances, speeches and presentations that occurred throughout the afternoon.

"I never dreamed I would experience KSC like I did," said summer aide Ryan Denton. "The fact we continue to launch shuttles in a national wildlife refuge with little harm amazes me."

FAMU/Discover master of business administration student Odilon Dulcio also described his time at KSC and shared one of his observations.

He said, "There are more acronyms here than there are words in the human language!"

Acknowledging that these experiences wouldn't be possible without a guide, the interns presented their mentors with



Pam Biegert, chief of Education Programs and University Research Division, addresses students and mentors at the 2002 Summer Interns Luncheon, which was held at the Debus Conference Facility July 24.



Students and mentors serve themselves at the 2002 Summer Interns Luncheon.

certificates including a special thank you note printed on them.

In addition to the luncheon, on July 26, Summer High School Apprenticeship Research Program (SHARP) students took advantage of one last opportunity to show their parents, teachers and mentors that they've been productive for the past two months.

At the SHARP 2002 Final Program, nearly 30 apprentices gave presentations on what they've learned at KSC and from their mentors, and listened to guest speaker and former astronaut Story Musgrave.

"I learned more than I thought

was possible in eight weeks," said apprentice Lauren Culver.

Apprentice Charlene Kemmerer said, "Everyday I walk through the halls with a huge smile on my face because I'm so proud to work at NASA."

The participants then snacked on cake as they received backpacks, chocolate Space Shuttles and pictures.

The dedicated mentors were not left out. As a keepsake, they were given insulated KSC mugs.

The apprentices were certainly worthy of the mementos. They each completed projects in impressive areas including informa-

tion technology security, electrical engineering, plant science, video security and web design as well as many more focuses.

"Once again, the SHARP 2002 Apprentices did an outstanding job of making the most of their opportunity at KSC this summer," said SHARP Coordinator Mark Mullins. "Of course, it was only possible because of the many mentors who took the time to provide them guidance and a vision of what they could accomplish."

Details about KSC's education programs can be found at [www-pao.ksc.nasa.gov/kscpao/educate/edu.htm](http://www-pao.ksc.nasa.gov/kscpao/educate/edu.htm).

# 35 years ago: Visitor Complex opens

## Veteran workers remember early days

Joseph Wallace and Sallye Foster still vividly remember when the gates of Kennedy Space Center were opened to the public 35 years ago.

The two Kennedy Space Center Visitor Complex veterans are the only two of the original 30 hires still working at the popular tourist destination.

Wallace and Foster both came to work at KSC in 1966, when the first NASA bus tours were offered.

They operated out of trailers behind the badging station at Gate 3 for one year before the Visitor Complex officially opened its doors on August 1, 1967.

“Even though the original structure is still standing, it’s hard to recognize the Visitor Complex today,” said Foster. “The only thing that hasn’t changed is the excitement from our guests.”

Foster has held a variety of jobs at the Visitor Complex and currently works behind the scenes as a cash control agent.

Wallace, however, has worked as a bus tour guide for the past 36 years. (Bus tours began a year before the Complex opened.)

He said that the public’s excitement helps him stay energized and enthusiastic on every single tour.

“The interest was high then and remains high,” reflected Wallace. “People love being able to come in and actually see the facilities. I still get excited when I get to show guests the Space Center and tell them all about what NASA is doing.”

Wallace’s own passion and knowledge of the Space Center has kept visitors returning for his tour.

“People would specifically call and request to be on Joe Wallace’s bus,” recalled Larry Mauk, a program design specialist for NASA. “When the bus tours first started, they lasted for two hours and escorts did not have a set script.”

Although the excitement remains, the Visitor Complex has changed markedly since it first opened its doors.

“When we first started, I was

### More heritage

In honor of Kennedy Space Center celebrating its 40th year as a NASA center, *Spaceport News* will feature a “Remembering Our Heritage” story in each edition. Some of the stories will commemorate a significant anniversary. Others will take an in-depth look at historical themes, such as how contractors have contributed to the program over the years and how KSC has fostered workforce diversity.

able to take visitors into the VAB,” Wallace said. “Now there are other opportunities to get excited about, like seeing a Shuttle launch or the latest IMAX movie.”

Today the 70-acre facility is managed by Delaware North Parks Services. Each year more than 2 million guests from around the world explore the exciting past, present and future of America’s space program at the Visitor Complex.

“Our mission at Kennedy Space Center Visitor Complex is to tell the NASA story and inspire all people to support the exploration of space,” said Dan LeBlanc, vice president of operations and marketing. “We tell the story in a variety of ways, from IMAX films to tours of restricted areas, interactive exhibits, live shows, and the breathtaking Rocket Garden and Apollo/Saturn V Center. In addition, Kennedy Space Center Visitor Complex is the only place in the world where guests can come face-to-face with – and even dine with – a real astronaut every day of the year.”

To celebrate 35 years of helping visitors experience their very own space odyssey, the KSC Visitor Complex held a special birthday celebration August 1.

Joseph Wallace and Sallye Foster were the guests of honor at the

## Remembering Our Heritage



Veteran Kennedy Space Center Visitor Complex employees joined current Employees of the Month during a cake cutting ceremony commemorating the 35th anniversary of the Visitor Complex Aug. 1. Pictured from left are Joe Wallace, a 35-year veteran of the Visitor Complex; Charlene Walters, manager of the month; Sherry Durborow, crewmember of the month; and Sallye Foster, a 35-year veteran.

Dine With an Astronaut luncheon, and spoke to visitors about the pride they both felt for their years of service.

“We are honored to be a part of the Visitor Complex and feel lucky to have had the opportunity to

meet so many wonderful people along the way,” said Wallace.

Wallace and Foster then cut the birthday cake. It is only a slice of the many experiences they have both had at the Kennedy Space Center Visitor Complex.



John F. Kennedy Space Center  
**Spaceport News**

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