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Spaceport News

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http://www-pao.ksc.nasa.gov/kscpao/snews/snewstoc.htm John F. Kennedy Space Center

Office seeks new technologies

Technology transfer advocates at Kennedy Space Center reached out to workers the week of Sept. 24 in hope of continuing to build a growing wave of documented KSC innovations.

Kennedy Space Center's annual Technology Transfer Week is hosted by the NASA Technology Programs & Commercialization Office.

The office helps heighten awareness of new technology reporting and commercialization activities for NASA and contractor inventors. Those activities include marketing KSC technologies, patenting, licensing, dual use and the Space Act Monetary Awards program.

The Tech Transfer Week display and office representatives were located in the lobbies of the Operational Support Building , Launch Control Center and KSC Headquarters building during the week.

(See TRANSFER, Page 8)

David Makufka, NASA commercial technology manager, explains the process for reporting new technologies.

Inside

KSC recognizes abilities

Disabled workers valuable to team

October is National Disability Employment Awareness Month, and this year, disabled employees at Kennedy Space Center plan to "Win With Ability."

This theme emphasizes persons with disabilities as a part of the non-traditional, skilled labor pool who can meet the needs of today's employers for a competent and creative workforce.

The Disability Awareness and

(See DISABLED, Page 6)

Kristie Durham, payload support service assistant, uses a Telecommunication Device of the Deaf (TDD) machine to send telephone messages.

Recognizing Our People

Lueck shines light on Apollo era inventors

Recognizing valuable scientific contributions and acknowledging their inventors has long been a part of NASA and Kennedy Space Center's history.

That tradition was continued this year with the presentation of Technology Transfer Awards to Bob Blanchard and Arthur Sherburne. The inventors were responsible for developing the gauge that measured the amount of liquid propellant in the Saturn V rocket during the Apollo era.

The technology was notable by itself, but the award was presented for the transfer of this system into the commercial world.

The sensor is currently the standard in the world's fleet of liquid natural gas tanker ships.

Dale Lueck, a NASA senior chemist at KSC, was responsible for recognizing Blanchard and Sherburne's commercialization of a space technology.

"I only wrote up a paragraph initially on what I thought NASA would want to be aware of, namely an early Apollo era technology put to good commercial use," Lueck said. "I was quite surprised when I heard they would likely get an award."

Dale Lueck, (at left in both photos above) a NASA senior chemist at Kennedy Space Center, was on hand for NASA Technology Transfer Award presentations to (from left to right) Bob Blanchard and Arthur Sherburne. Lueck was responsible for getting recognition for the two inventors.

Lueck had worked for Blanchard at Trans-Sonics Inc. in Burlington, Md. Trans-Sonics was the company responsible for developing the gauge, and so Lueck was aware of the gauge's success in the liquid natural gas (LNG) market.

A recipient of the Commercial Invention of the Year Award for 2000, Lueck believed that the sensor and its commercial application deserved recognition.

Lueck was called upon to write a new technology report, explaining the impact of the gauge on the LNG business. He researched the technology and found to his surprise that LNG had ballooned to an industry worth more than $20 billion a year. After receiving Lueck's final report, NASA decided to present Blanchard and Sherburne with the Technology Transfer Award and a check for $13,000 each.

With Blanchard unable to come to KSC for an awards ceremony due to ill health, the KSC Spaceport Engineering & Technology Directorate sent Lueck to Blanchard's home in Boston to present the award.

Awards

You Make a Difference

Anetta Ott
BA-C

Suzanne Stuckey
CC

John Dollberg
UB-F

Joel Wells
XA-E

William Franklin
YA

National Space Club honors three

The National Space Club Florida Committee recognized its 2001 Lifetime Achievement Honorees Sept. 27.

Three honorees were applauded for their service to the space program and the community during a luncheon at the Doubletree Hotel in Cocoa Beach.

Those honored were Horace Lamberth, Russell Barnes and Jimmey Morrell.

Lamberth retired as director of Shuttle and Ground Support Engineering for Lockheed Martin Space Operations Co. in 1996 and continues to actively consult for United Space Alliance at Kennedy Space Center.

He began his aerospace career by joining NASA in 1964. He has twice received NASA's Exceptional Service Medal. Lamberth earned a bachelor of science degree in mechanical engineering from Tennesse Technological University.

Horace Lamberth

Barnes retired as president of Pan Am World Services in 1989 after spending 35 years successfully working with and managing the government contractor team responsible for operating the Eastern Test Range, which supports NASA and military launch operations from the Cape. Barnes has a bachelors of science degree in electrical engineering from the University of Kentucky and is a graduate of the Sloane School of Management at Massachusetts Institute of Technology.

Morrell is a retired Air Force Major General who was the first commander of the 45th Space Wing and today is a senior vice president with GRC International Inc. His honors include the Air Force Distinguished Service Medal.

Morrell has a bachelor of science degree in history from Nicholls State University and a master of arts degree in economics from the University of South Dakota.

Hispanic Heritage luncheon rallies crowd

The need for unity and diversity in the workplace and the nation was stressed at the Hispanic Heritage Month luncheon Sept. 25.

The event, which was held at the Debus Conference Facility at the Kennedy Space Center Visitor Complex, offered Cape Canaveral Spaceport managers and workers a chance to rally around the flag and show their solidarity in the wake of the Sept. 11 terrorist attack.

"Today more than ever we need to demonstrate solidarity to those who wish to divide us and compassion to those who suffer," said O. Lydia Del Rio, one of the chairwomen of the observance committee. "The coming together for this event gives testimony to the world community that America is a great nation and will not be deterred."

The featured speaker, Orlando Figueroa, Ph.D., Mars Program Director at NASA Headquarters, could not make the event because of travel restrictions caused by that attack. Instead several speakers, including Jim Jennings, KSC deputy director, and Miguel Rodriquez, chief of the integration office of the Joint Performance Management Office, addressed the group.

Jennings spoke about the special responsibility that KSC has to promote diversity and provide opportunities to people of all races and backgrounds.

"Our goal at KSC is to create an ideal multicultural environment that enables us to be relevant to America," Jennings said.

James Jennings, (above) Kennedy Space Center deputy director, addressed the crowd at the Hispanic Heritage Month luncheon, which was held at the KSC Visitor Complex. He spoke about the important contributions of KSC workers of Hispanic heritage. At left, KSC team members serve themselves at the buffet table. The luncheon was sponsored by the Hispanic Employment Program Working Group.

Combined Federal Campaign kicks off

NASA employees called upon to do their part

This year's Combined Federal Campaign got off to a great start on Oct. 1, with a kick-off rally in the Training Auditorium.

Chairman Todd Arnold welcomed the assembled group and led everyone in the Pledge of Allegiance. A local group, "Remember Me," sang the National Anthem.

Center Director Roy Bridges asked the entire NASA team to step up to the challenge and conduct a thorough campaign, making sure each NASA employee received personal contact.

Bridges spoke of the recent tragic events in our nation and its impact on people in the local community. He urged KSC employees to consider local charities, as well as international and national ones.

Guest speakers Jim Ross of Crosswinds Youth Services, John Lammi of the Family Counseling Center, and Joe Robinson of North Brevard Charities briefed attendees on their agencies and the good work they do in the the local area.

They spoke of the need to "care," which is a direct reflection of this year's campaign slogan, "United We Care."

Rob Raines, president of United Way of Brevard, thanked everyone for their past generous contributions, and looked expectantly to this year's campaign.

"NASA employees are very generous givers," he said.

Raines said the nation rose quickly to the need for immediate disaster relief assistance, with more than $700 million dollars raised so far.

As NASA employees give to authorized CFC agencies, the generous contributions will not only meet the immediate need, but help meet the ongoing, residual needs of the next year, Rains pointed out.

At press time, just a few days into the month-long campaign, NASA employees had already contributed $83,000, nearly one third of the $250,000 goal.

Contributors will be eligible for weekly prizes during the campaign.

The prizes include a $50 and $100 gift certificate to the NASA Exchange, and four maximum access tickets to the KSC Visitor Complex.

The earlier in the campaign employees contribute, the more chances they have to win.

Employees who have not already contributed are asked to make their contribution on-line at the CFC Web site **http://cfc.ksc.nasa.gov** and get their signed receipt to their unit coordinator or key solicitor right away.

Arnold closed the kick-off event and said, "I care, and I urge the entire NASA workforce to show that, 'United We Care!' "

Inside

OTV

Kennedy Space Center uses the Operational Television (OTV) system to keep a close eye on Shuttle launch, landing and processing operations.

OTV allows NASA and contractor engineers and managers at various remote locations to monitor Shuttle operations at the pads, the Shuttle Landing Facility and processing facilities. The visual oversight, used in tandem with sensor readings, helps to ensure operations are proceeding safely and that no problems have developed with the Shuttle or its support systems.

The most high-profile use of OTV is during the launch countdown, when dozens of video cameras on the pad are trained on elements of the Space Shuttle.

"The proper performance of OTV isn't officially considered launch critical, but is safety critical, and used to monitor many launch critical systems and operations," said Chris Perri, NASA OTV systems engineer.

Operating under the Spaceport Services directorate, the OTV system is a huge network of fiberoptic cable, video cameras and monitors primarily controlled through the OTV main operations room in the Launch Control Center (LCC).

The OTV system features 210 analog video cameras. About 10 percent of the cameras in the system produce color video. In addition, a number of infrared cameras are used to detect hydrogen leaks and fires.

Most of the video cameras are contained within special housings pressurized with nitrogen to protect the cameras from the elements and vibrations, and to ensure that no internal electrical failures within the housings present a fire or explosion hazard in the presence of hydrogen gases.

Twenty-three United Space Alliance (USA) technicians — led by Bill Hillier, USA's OTV operations manager — monitor and maintain the OTV system during three shifts.

The invaluable system, much of which was installed during the Apollo era, is undergoing a multi-year $33 million upgrade that will allow it to meet modern color digital video-monitoring standards and provide increased safety assurance. The new system will be used in the LCC's new Operational Control Rooms as part of the Checkout and Launch Control System now under development.

The OTV modernization effort is being overseen by Robert Stute, NASA project manager. The changeover from analog to digital is a complex process because the old system must be kept running while the new system is phased in.

"Television stations across the country are doing the same thing as they transition from analog to digital equipment. Our system, however, is much more complicated," Stute said.

USA design engineers are developing software and equipment to support the new OTV system. Dynacs Engineering Co. is also contributing to the system's development. The new system will feature

- higher-resolution, all-color digital video cameras,
- an expanded ability for video inputs and outputs across the Center,
- more precise controls for shifting camera angles, and
- more automated monitoring of video cameras.

Eventually, the OTV group is hoping to be able to incorporate high definition television (HDTV) video cameras into the new digital system to provide managers and engineers with even clearer real-time monitoring.

Currently, OTV monitoring is augmented with film and still recordings of launch and landing.

"Video provides real-time assessment and is good for replays before film is processed," Perri said. "If a problem is uncovered, engineers also want to see it on film because of the higher resolution."

NASA's Chris Perri checks out operation of the new Unified Camera Control System designed specifically for the new digital video switching and camera system for OTV.

Technicians Jose Figueroa (left) and Dave Hackel perform maintenance of an OTV camera located at the pad.

Above Duane Carter, (left) USA lead design engineer for the camera team, discusses a new digital video camera with Bill Hillier, USA manager of Video Operations and Maintenance.

Ken Cooper, (front) O
Control Center. The vi

Above, Ron Gibbons,
Alliance (USA) senior
demonstrates the des
new infrared camera,
modernization. The c
Complex 39 launch p
fires. Terry Greenfield
Engineering lead des
housing project. The
cooperative effort betw
Duane Carter, USA le
the camera team, look
the room.

TV lead technician, and Chris Perri, NASA OTV systems engineer, observe several camera views of processing areas in OTV Master Control in the Launch deo wall (left) is used to monitor all KSC OTV camera locations.

(right) United Space
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ign of housing for a
which is part of the OTV
amera will be used at
ads to detect hydrogen
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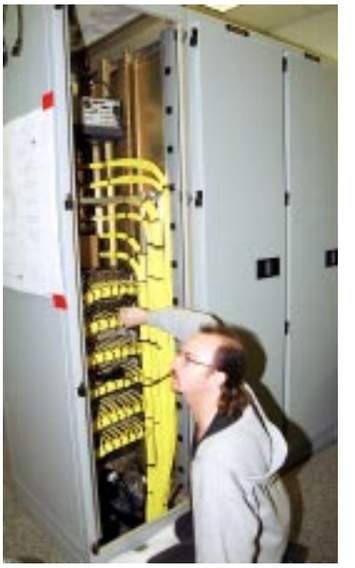
Video Operations Technician Robert Southwell verifies OTV recording requirements against the daily operations support schedule.



Video Operations Technician Ron Gonser checks out some recently installed circuits to the new digital video switcher.

DISABLED ...

(Continued from Page 1)

Action Working Group (DAAWG) at KSC invites workers to participate in this year's recognition by attending a presentation by guest speaker Alex Valdez Oct. 12 at 1:30 p.m. in the KSC Training Auditorium.

Valdez, who has been blind since early childhood, is a nationally recognized comedian and motivational speaker.

His message, combined with his humor, is designed to inspire audiences to appreciate people who vary in terms of age, ability, language and culture.

The DAAWG is an advisory group to the Center Director on matters relating to employees with disabilities as well as a resource to the Equal Opportunity Program Office, Workforce and Diversity Management Office, and other directorates.

"The committee has addressed several hundred issues ranging from restroom access to high-tech visual equipment," said Marvin Jones, chairperson of the DAAWG. "It is my pleasure to be associated with this group who have tackled deficiencies at KSC for our disabled employees.

"We have certainly made huge strides and realize that we still have many tasks ahead, but we will continue to accept challenges and strive to make KSC barrier free."

KSC has made many Center improvements in order to provide a safer and more accessible work environment for its workers with physical disabilities.

NASA employs more than 180 persons with self-identified disabilities at KSC, said Jones.

KSC team member Leon Wichmann, for example, may be physically disabled and in a wheelchair, but that hasn't slowed him down. A tragic accident, when he was young, left Wichmann paralyzed and unable to walk.

He came to KSC from his hometown of Balaton, Minn., to work for the space program from 1966 until his retirement in 1998.

"I flunked retirement," said a grinning Wichmann.

He returned to KSC in 2000 and is currently the business manager for Dynac Engineering's Cryogenics Testbed Facility.

Over the years Wichmann has seen many improvements and changes for the disabled at KSC. "We've come a long way in making things more accessible and KSC is a shining star in this effort," he said.

"There are a lot of dedicated people on the NASA side, but I'd like to see more acceptability of those with disabilities in the workplace," Wichmann said. "People have disabilities. Situations create handicaps."

Kristie Durham, an 11-year NASA employee, is a payload support service assistant in the Expendable Launch Vehicle program.

Nancy Zeitlin, KSC Center Director's Discretionary Fund Program manager, hasn't let her visual impairment stop her from contributing to the space program.

Leon Wichmann, business manager for Dynac Engineering's Cryogenics Testbed Facility, came back to work after retiring from KSC.

Durham, who has a hearing impairment, uses a Telecommunication Device of the Deaf (TDD) machine to send and receive telephone messages.

Durham, who wears hearing aids and can read lips, said having an interpreter or closed-captioned capabilities readily available at Center presentations and events "is very helpful."

"It's hard to get that kind of service at the last minute," she said. "In group conversations and meetings, people sometimes forget that those with hearing disabilities may not be able to get everything that's being said."

Durham, commenting on her contributions at KSC, said that she enjoys the variety of assignments and flexibility in her work.

She also serves as a mentor to help others grow in their jobs.

Nancy Zeitlin, a NASA employee for more than 11 years, is the KSC Center Director's Discretionary Fund program manager.

Zeitlin, who is visually impaired, doesn't let her disability stop her. She previously worked for the Space Shuttle Program as the OMRS project manager and as an SRB mechanical systems engineer.

Commenting on her experiences at KSC, Zeitlin said, "You have to take an active role and pursue options aggressively."

She continued, "One of the problems is that people often focus on your limitations, rather than your talents and capabilities. It's an education process that requires using a proactive approach."

In her position, NASA provided Zeitlin with the necessary tools to perform her work, including a large-screen monitor and a scanner to enlarge smaller documents.

Zeitlin also uses a text reader and speech recognition software to transcribe, write and prepare documents and presentations. To avoid eye fatigue while working, she uses special lighting in her office.

For information on the DAAWG at KSC, visit: **www.ksc.nasa.gov/groups/daawg/.**

BCC offers aerospace technology

What began as discussions between government, academia, industry and Kennedy Space Center officials at the 2000 Florida Space Summit is now a new college program.

Brevard Community College recently set up house at KSC's Center for Space Education to launch the new BCC aerospace technician degree program and certification process.

The degree program, which began in August, is an industry-driven initiative designed to provide a national skills standard for aerospace technicians.

The program is monitored by the Aerospace Technology Advisory Committee (ATAC), a group of more than 40 industry, government and academic organizations working together to develop curriculum for future aerospace technicians.

JoAnn Morgan, KSC's director of External Relations and Business Development, is an advocate of the new program.

"At the first Space Summit in January 2000, aerospace workforce training assistance was one of the top needs identified by the industry. With technology rapidly advancing, the ATAC training is a great addition to the training pipeline and offers the latest in technical training," Morgan said.

"We in NASA are pleased to see the leadership United Space Alliance, Boeing and Brevard Community College have taken to ensure a quality workforce for the future.

"I recently visited the first class and was impressed with the technical tools used in the laboratory."

Dr. Albert Koller, BCC's executive director of aerospace programs, explains that the courses do more than prepare students for entry-level positions in the aerospace industry.

"The curriculum offers a standardized and industry-endorsed education program that provides employers with a well-trained and productive workforce," he said.

Applicants range from recent high school graduates to technicians with more than 15 or 20 years in the field.

Inaugural students of Brevard Community College's aerospace technology program listen to instructor Peri Baker-Horner during the "Introduction to Aerospace Workplace" class. Along with other instructors, Baker-Horner teaches courses for the BCC program at KSC's Center for Space Education.

Once accepted, enrollees follow a two-year schedule of classes.

After completing the required 70 hours, including general courses and internships, participants receive an Associate of Applied Science degree.

Students wanting to prepare for additional college degree work can substitute general education courses for internships and receive an Associate of Science degree.

BCC plans to limit each entering class' enrollment to approximately 25 students, with a total of 200 possible at the current location.

This restricted enrollment is employed to ensure success in the "cohort-centered" environment.

The program developers envision a first time college student working together with 24 partners through the entire set of classes.

Koller explains that this configuration was planned strategically.

"The courses designed for the program are centered around the aerospace technician job functions and the aerospace work environment. All the courses, including general education classes, will reflect an aerospace theme," he said. "They're also structuring the classes like this because research indicates cohort groups substantially increase the success rate for students."

> The BCC aerospace technician degree program and certification process, which began in August, is an industry-driven initiative designed to provide a national skills standard for aerospace technicians.

According to Pamela Biegert, KSC's chief of Education Programs and University Research Division, the space industry will benefit from this program.

"The BCC aerospace technician program is an excellent first step by the educational community to provide trained and certified aerospace technicians who can fill current and future voids in the workforce pipeline in support of the Spaceport Technology Center," Biegert said. "The partnering of industry, academia and government in this effort, including the consortium of community colleges nationwide to develop a curriculum specifically for aerospace workers, should result in a highly skilled workforce of the future."

For more information on BCC's aerospace technician program,

- visit **http:/web2010.brevard.cc.fl.us/spaceport**,
- e-mail aerospace@brevard.cc.fl.us,
- or call 449-5060.

TRANSFER ...

(Continued from Page 1)

Such tech transfer "inreach" efforts pay dividends. During the past two fiscal years, KSC has taken first place among NASA centers for total Space Act Award dollars received.

"We want to continue building awareness about the need for reporting improvements, so we can continue to set the pace," said David Makufka, NASA commercial technology manager.

"Workers at KSC are constantly improving processes, software and equipment to meet operational challenges. Much of what we do is to help them recognize the value of their improvement."

Makufka said a major misconception that inventors have is that an invention has to be revolutionary to win a Space Act Award. Even relatively simple process improvements or equipment modifications can sometimes be significant.

Contractor tech transfer representatives were also on hand to spread the word. United Space Alliance and The Boeing Co. have increased their inreach efforts to encourage their employees to report innovations.

Contractors interested in reporting their new technologies should contact the tech transfer representative in their organization.

"Dynacs, the Engineering Development contractor, has consistently been a major contributor of innovations, but now our operational contractors have begun to emphasize to their workers the opportunity for reporting innovations," Makufka said.

For more information on technology transfer, contact Dave Makufka at 867-6227.

We want to continue building awareness about the need for reporting improvements, so we can continue to set the pace.

DAVID MAKUFKA
NASA COMMERCIAL TECHNOLOGY MANAGER

STS-105 crew returns for visit

The crew of STS-105 returned to Kenneday Space Center Oct. 1 to tell the on-orbit story of their mission to workers. Three of the crew are pictured above signing autographs and interacting with employees after their briefing. From left are STS-105 Mission Commander Scott Horowitz, Pilot Fredrick Sturckow and Mission Specialist Daniel Barry. The STS-105 mission aboard Discovery to the International Space Station delivered several payloads and the Expedition Three crew. The Multi-Pupose Logistics Module "Leonardo" was carried on its second flight to the Station. The module was outfitted with 12 racks of experiments and equipment. Four racks carried logistics supplies and hardware.

Kodiak Star shines

A Lockheed Martin Athena I launch vehicle lifts off the launch pad at Kodiak Launch Complex, Alaska, with the Kodiak Star spacecraft on board. Liftoff occurred at 10:40 p.m. EDT, Sept. 29. The Kodiak Star payload consists of four satellites: PICOSat, PCSat, Sapphire and Starshine 3. Starshine is sponsored by NASA. The 200-pound sphere will be used by students to study orbital decay.

John F. Kennedy Space Center

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