Vol. 35, No. 17 August 16, 1996

Spaceport News

America's gateway to the universe. Leading the world in preparing and launching missions to Earth and beyond.

John F. Kennedy Space Center

Mission update

Mission: FAST on Pegasus XL.

Launch date, time: Aug. 18 at 2:42 a.m. PDT from Vandenberg Air Force Base, Calif.

Primary payload: The Fast Auroral Snapshot (FAST) Explorer satellite will probe the physical processes that produce auroras, while adding significantly to the understanding of the Earth's environment in space.

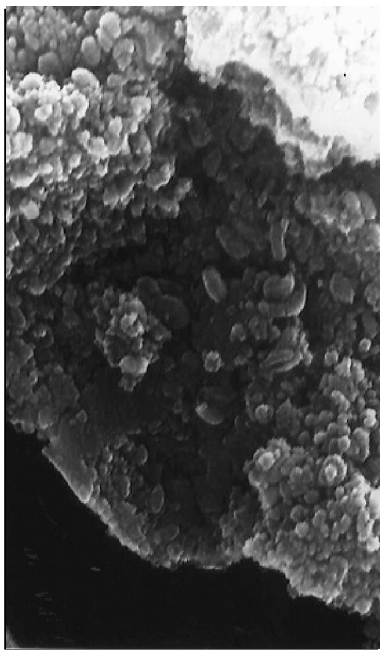
Mission: STS-79 on Atlantis.

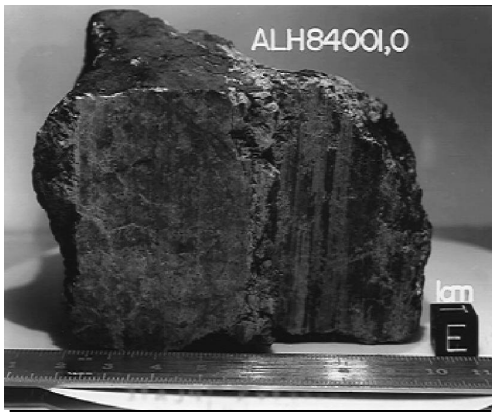
Launch date, time: Target date of Sept. 12, 6:26 a.m. from Launch Pad 39A.

Mission Synopsis: STS-79 is the fourth in a series of NASA docking missions to the Russian Mir Space Station, leading to the construction and operation of the International Space Station. As the first flight of the Spacehab Double Module, STS-79 encompasses research, test and evaluation of ISS as well as logistics resupply for the Mir Space Station. STS-79 is also the first NASA/Mir American crew member exchange, with astronaut John Blaha replacing Shannon Lucid aboard the Mir.

Landing date, time: Target date of Sept. 21, 11:30 a.m. at KSC's Shuttle Landing Facility.

Hardware arrival to herald NASA's new Mars initiative





THIS 4.5 BILLION-YEAR-OLD rock, labeled meteorite ALH84001, is believed to have once been a part of Mars and to contain fossil evidence that primitive life existed on the planet. The rock is a portion of a meteorite that was dislodged from Mars by a huge comet or asteroid impact about 16 million years ago and fell to Antarctica 13,000 years ago.

AT LEFT is an electron microscope image showing egg-shaped structures, some of which may be microscopic fossils of Martian origin. The largest possible fossils are less than 1/100th the diameter of a human hair, while most are ten times smaller. Hardware for the next two missions to Mars, scheduled to be launched from Cape Canaveral Air Station later this year, was scheduled to arrive at Kennedy Space Center this week. The Mars Global Surveyor, set for a Nov. 6 launch, will carry out an extensive study of the planet using its suite of sophisticated remote-sensing instruments. On Dec. 2, the Mars Pathfinder is scheduled to lift off on a mission to release an autonomous rover to explore the planet's surface. For more, see page 2.

Morgan, Breakfield receive appointments

New position is created for safety, shuttle upgrades

A new position created at Kennedy Space Center to oversee infrastructure and operations support for future Shuttle upgrades represents a renewed emphasis on the longevity of the program, said JoAnn Morgan, newly named associate director for Safety and Shuttle Upgrades.

Center Director Jay Honeycutt last week announced the appointments of Morgan to the new position and P. Thomas (Tom) Breakfield, III as director of Safety and Mission Assurance. The appointments were made

(See POSITION, Page 8)

Endeavour undergoing modifications

THE ORBITER ENDEAVOUR departs KSC atop the Shuttle Carrier Aircraft on its way to California for its first Orbiter Maintenance Down Period on July 30. Endeavour will spend about eight months at orbiter manufacturer Rockwell's Orbiter Assembly Facility, undergoing routine inspections and checkout and a series of modifications to prepare Endeavour for its role in the International Space Station program. The first space station flight is scheduled for late 1997.

NASA scientists combine findings to uncover evidence of life on Mars

Last week's announcement that NASA scientists had discovered evidence strongly suggesting primitive life may have existed on Mars made headlines around the world.

The NASA-funded research team at the Johnson Space Center (JSC), Houston, TX, and at Stanford University, Palo Alto, CA, found the first organic molecules thought to be of Martian origin; several mineral features characteristic of biological activity; and possible microscopic fossils of primitive, bacteria-like organisms inside an ancient Martian rock that fell to Earth as a meteorite.

This array of indirect evidence of past life is reported in the Aug. 16 issue of the journal *Science*, presenting the investigation to the scientific community at large for further study.

Investigation invited

"The evidence is exciting, even compelling, but not conclusive. It is a discovery that demands further scientific investigation," NASA Administrator Dan Goldin said in announcing an Aug. 7 news conference in which scientists would discuss the discovery.

"NASA is ready to assist the process of rigorous scientific investigation and lively scientific debate that will follow this discovery," he said.

The two-year investigation was co-led by JSC planetary scientists Dr. David McKay, Dr. Everett Gibson and Kathie Thomas-Keprta of Lockheed-Martin, with the major collaboration of a Stanford team headed by Professor of Chemistry Dr. Richard Zare, as well as six other NASA and university research partners.

"There is not any one finding that leads us to believe that this is evidence of past life on Mars. Rather, it is a combination of many things that we have found," McKay said.

"They include Stanford's detection of an apparently unique pattern of organic molecules, carbon compounds that are the basis of life. We also found several unusual mineral phases that are known products of primitive microscopic organisms on Earth. Structures that could be microsopic fossils seem to support all of this. The relationship of all of these things in terms of location - within a few hundred thousandths of an inch of one another - is the most compelling evidence."

Burden of proof

"It is very difficult to prove life existed 3.6 billion years ago on Earth, let alone on Mars," Zare said. "The existing standard of proof, which we think we have met, includes having an accurately dated sample that contains native microfossils, mineralogical features characteristic of life, and evidence of complex organic chemistry."

The igneous rock in the 4.2-pound, potato-sized meteorite has been age-dated to about 4.5 billion years, the period when the planet Mars formed. The rock is believed to have originated underneath the Martian surface and to have been extensively fractured by impacts as meteorites bombarded the planets in the early inner solar system.

Between 3.6 billion and 4 billion years ago, a time when it is generally thought that the planet was warmer and wetter, water is believed to have penetrated fractures in the subsurface rock, possibly forming an underground water system.

Since the water was saturated with carbon dioxide from the Martian atmosphere, carbonate minerals were deposited in the fractures. The team's findings indicate living organisms also may have assisted in the formation of the carbonate, and some remains of the microscopic organisms may have become fossilized, in a fashion similar to the formation of fossils in limestone on Earth.

Then, 16 million years ago, a huge comet or asteroid struck Mars, ejecting a piece of the rock from the planet.

For millions of years, the chunk of rock floated through space.

It encountered Earth's atmosphere 13,000 years ago and fell in Antarctica as a meteorite.

Carbonate holds key

It is in the tiny globs of carbonate that the researchers found a number of features that can be interpreted as suggesting past life. Stanford researchers found easily detectable amounts of organic molecules called polycyclic aromatic hydrocarbons (PAHs) concentrated in the vicinity of the carbonate.

Researchers at JSC found mineral compounds commonly associated with microscopic organisms and the possible microscopic fossil structures. The largest of the possible fossils are less than 1/100 the diameter of a human hair, and most are about 1/1000 the diameter of a human hair.

The meteorite, called ALH84001, was found in 1984 in Allan Hills ice field, Antarctica, by an annual expedition of the National Science Foundation's Antarctic Meteorite Program. It was preserved in JSC's Meteorite Processing Laboratory and its possible Martian origin was not recognized until 1993.

Incubation center opens doors

THE DOORS of the Florida/NASA Business Incubation Center (FNBIC) opened with a ribbon-cutting ceremony Aug. 6. The cooperative venture is sponsored by NASA, the state of Florida's Technological Research and Development Authority (TRDA) and Brevard Community College. Located on BCC's Titusville campus, the facility is designed to nurture fledgling businesses. From the left are, Frank Kinney, executive director, TRDA; Sen. Charlie Bronson; Dr. Maxwell King, president, BCC; Maria Clark, executive director, FNBIC; U.S. Rep. Dave Weldon; Lt. Gov. Buddy MacKay; Sen. Patsy Kurth; Rep. Randy Ball; KSC Associate Director Al Parrish; and Dr. Robert Norwood from NASA Headquarters.

KSC BIOLOGIST NAMED TO HEAD MANATEE WORKING GROUP

Newcomers to Florida sometimes have trouble understanding the fascination many residents hold for manatees -- those bulbous creatures that congregate in the state's waterways and can make boating down a channel comparable to negotiating an obstacle course.

Jane Provancha, an ecologist with Kennedy Space Center's (KSC) Life Sciences Support Contractor, the Dynamac Corporation, has a message for those people -- protecting the manatee is an essential part of preserving the resources that drew them here.

Provancha, who was recently selected to lead a Manatee Geographic Information System (GIS) Working Group to coordinate information on manatees for the public and private sector, preaches a simple message.

Every part of the circle of life makes a vital contribution to the whole. When manatees, which are currently categorized as endangered, become extinct, the waterways that now contain them will also be at risk.

"Manatees are a small part of the big picture," said Provancha, who leads KSC's Aquatics Group.

KSC has an advantage in conducting research on the mammals because they are naturally drawn to the warm waters of the Indian and Banana rivers. "This is the most important hub for manatees on the east cost of Florida," Provancha said.

JANE PROVANCHA says the manatee working group she is heading will assist conservation efforts through shared resources.

A manatee rehabilitation program, which was started in 1994 in the Banana River off the NASA Causeway, gave the biologists a chance to learn more about the mammals and the seagrasses they live on. The death of seagrass in the pens has resulted in the cessation of the project but it offers researchers the opportunity to gain valuable information about the interdependence between the grass and its surroundings.

Florida residents need to realize the fragile state of the ecosystem and the toll years of development and neglect have taken, she said.

She said the Manatee GIS Working Group, formed in 1989, will help conservation efforts through rapid communication and data sharing among scientists from federal and state agencies, academia and the boating industry. The group works with the Florida Department of Environmental Protection and uses the GIS computerized method for analyzing the ecology of any given area. All the known data that affect an area's health are combined on a high resolution map allowing scientists to show how a combination of factors affect interactions.

The group is planning an Internet web site and will soon publish a CD-ROM that will serve as an atlas of marine resources. It provides a service to any group concerned with the manatee problems through its network of contacts in the field. "We're hoping the information we generate can help other agencies and individuals protect all our valuable resources," Provancha said.

Goldin appreciative of KSC's Olympic effort

Editor's note: The following letter was received by Center Director Jay Honeycutt in appreciation for Kennedy Space Center's contribution to the Olympic Torch Relay.

Dear Jay:

I would like to commend you for your Center's efforts in supporting the Olympic Committee and for the July 7, 1996, ceremony commemorating the Olympic torch's return with the STS-78 crew and the torch's route through KSC. The entire event was extremely well organized and representative of the professionalism that this nation has come to expect from NASA and KSC. Due specifically to the enthusiasm and dedication of the KSC team, the Olympic torch run was made even more memorable by scenes of this ancient ritual passing in front of Atlantis, one of America's national assets.

Please extend my appreciation to your team for doing such a spectacular job in representing all of NASA.

Sincerely,

Daniel S. Goldin

Employees invited to view Rolling Stones IMAX film

Kennedy Space Center employees will get the satisfaction of seeing The Rolling Stones "At the MAX" at the Visitor Center IMAX 1 Theater.

Delaware North, the KSC Visitor Center concessioner, is providing special free showings for KSC employees and their families from Sept. 5 - 8 at 7 and 9 p.m. each evening.

Tickets for the employee showings will be distributed through Space Flight Awareness representatives the week of Aug. 26.

Shot on location in Turin, Berlin and London, the film features the electrifying Stones during the band's record-breaking 1989/90 Steel Wheels/Urban Jungle tour.

The Rolling Stones movie is the not only the first IMAX concert film but is also the first feature-length film in the format which provides an overwhelming 90- minute experience.

Shows will be available to the general public for the three remaining weekends in September each Friday, Saturday and Sunday at 6:30 p.m. for a ticket price of $9.

LAUNCH DIRECTOR Jim Harrington is made up by makeup artist Diane Maurno. Harrington portrays himself in the movie pilot.

KSC PLAYS STARRIN

Kennedy Space Center, the nation's gateway to the stars, will soon have a starring role of its own in the Mary Tyler Moore television production "The Cape."

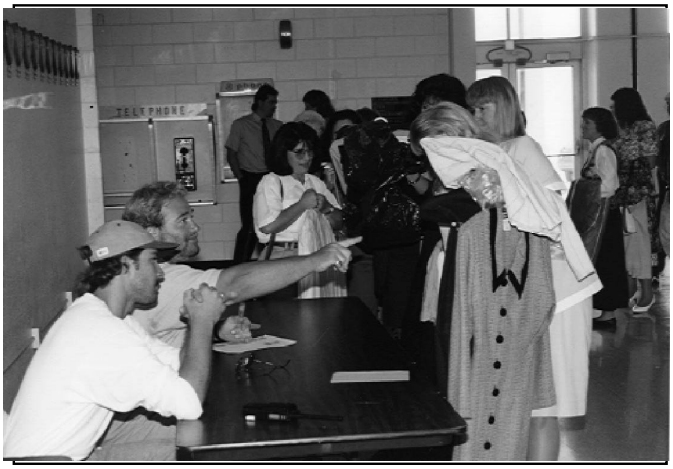
The pilot movie, to be followed by a 20-episode television series is scheduled to air this fall on WKCF (channel 18). Beginning last spring, MTM production staff traversed KSC in search of the camera shots and angles that would help them create an authentic picture of astronauts and hardware being prepared for launch.

Executive Producer Kary Antholis, who recently won an Academy Award for his work on a documentary about the Holocaust, said he was intrigued by the concept because of the potential for telling a fantastic story about people doing heroic things in awe-inspiring surroundings.

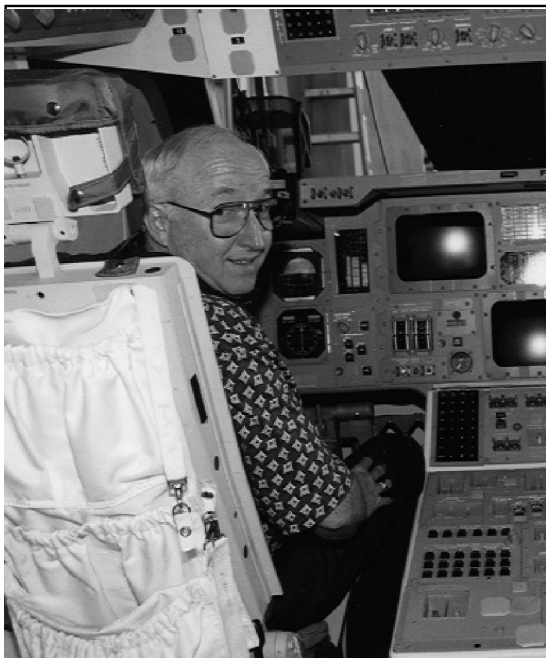
Getting equipment and huge crews to those surroundings sometimes proved overwhelming, Antholis said. The support of KSC management and assistance by employees throughout the center helped clear some of the logistical hurdles.

Filming began in May. Sites that are routinely us for real-life launches, incl ing Firing Room 1, the Astronaut Quarters at the Operations and Checkou Building, and the catwalk Pad B were bathed in ligh and wired with sound equ ment in an effort to accer ate their authenticity for t camera. Trailers for equip ment, cast, wardrobe and food followed the product crew around the center.

KSC employees servir as extras, some in roles t work in every day, were scrutinized for authenticit



COSTUME SUPERVISOR Michael Safier gives directions to extras, carrying the clothing they will wear during filming, in the Launch Control Center lobby.



ABOVE, Launch Director Jim Harrington and Assistant Launch Director Al Sofge test the flight deck of the simulated orbiter built by Mary Tyler Moore Productions for the movie. At right a NASA T-38 is prepared for filming at the Shuttle Landing Facility.

SERIES STARS Adam Baldwin, Cameron Bancroft, Bobbi Phillips and Bobby Hosea are filmed during a running scene near the Astronaut's Beach House at Kennedy Space Center.

t filming locations, in-
se television program-
was replaced by videos
ring to the fictional Cape
ion.

Such meticulous attention to detail essed even those whose dards are non-negotiable n it comes to Shuttle ches. Launch Director Harrington and Assistant nch Director Al Sofge d other KSC officials in ng the model cockpit sed by the Cape to late the actual item. both gave the mock-up lid thumbs up.

Antholis said cast and crew members couldn't help but absorb the sense of shared satsifaction on center after viewing the launch of Columbia on STS-78 June 20.

"We hope to draw attention to the endeavors of men and women who escape the bonds of Earth's gravity to explore the unknown," he said.

The spirit of the space program is what he hopes the program conveys to the public.

PANELS ARE CLOSED on the Firing Room 1 windows to simulate a night launch.

STUNT DIRECTOR Jim Vickers assists actress Tyra Ferrell prepare for a scene during which she is training for an extravehicular activity.

Professional secretaries group to install officers on August 27

Administrative Support personnel at Kennedy Space Center have an opportunity to keep current with ever-changing requirements in their profession by joining an organization being offered for the first time on center.

The Space Coast Chapter of Professional Secretaries International (PSI), which held its first meeting in June, serves to keep secretaries up to date on business trends and technology and to strengthen the image of the profession.

Officers of the KSC chapter will be installed Aug. 27 at 9 a.m. at the Mission Briefing Room in the Operations and Checkout Building.

Supervisors, senior management and all NASA and contractor secretaries are invited to attend the reception.

Peggy Parrish, chapter president, said her goals for the KSC chapter are to enhance the image of all office support professionals through educational seminars, networking, and the Certified Professional Secretary (CPS) program.

Other officers are Karen Jansma, vice president, and Sherry Russo, secretary.

The chapter, which meets on the second Wednesday of each month at 11:30 a.m. in Headquarters Room 2201, sponsors a variety of career-enhancing activities from training in leadership and presentation skills to participation in professional development courses and the opportunity to earn Continuing Education Units toward maintaining the Certified Professional Secretary certification.

Joy Colston, president of NASA's senior secretary council, said the affiliation offers wonderful opportunities for training, improvement and networking.

Civil service and contractor employees are welcome to join.

For more information contact Peggy Parrish at 867-7208.

Employees can take advantage of area theme park discounts

Kennedy Space Center employees can take advantage of the following specials at area theme parks:

DISNEY - Blizzard Beach Special - Admission price at Disney's newest water park for Sept. 7 or 8 is $22.50 which includes a meal ticket and unlimited soft drinks from 10 a.m. - 5 p.m.

Regular admission price without food or drinks is $25.39. Tickets will go on sale at all NASA Exchange Retail Stores on Aug. 26.

UNIVERSAL - For the entire month of September, KSC employees and families can visit and enjoy Universal Studios for $23/adults and $18/children (ages 3-9).

Regular prices are $38.50 plus tax/adult; $31 plus tax/children. Tickets will go on sale at all NASA Exchange Retail Stores on Aug. 26.

SEA WORLD - For the entire month of October, Sea World tickets will be on sale in the NASA Exchange Retail stores for just $25 (adult and children same price). Regular price for admission is $39.95/adult and $32.80/children. Tickets will go on sale Sept. 23.

Most KSC Rockwell employees to continue transition to USA despite Boeing purchase

Although The Boeing Company recently agreed to purchase Rockwell International Corporation's aerospace and defense units, most employees of Rockwell's Space Systems Division will continue transitioning this fall to another new venture - The United Space Alliance (USA).

Approximately 800 of the 1,100 Rockwell Space Systems employees at Kennedy Space Center will become USA employees on Oct. 1, said Bob Tucker, Rockwell spokesman. The remainder will become part of Boeing's new subsidiary, Boeing North American, Inc., sometime in November. Also joining the Boeing venture will be 130 Rocketdyne employees at KSC.

Boeing and Rockwell announced the agreement Aug. 1, under which Boeing will acquire nine Rockwell businesses for $3.2 billion. The deal also includes 50 percent of USA which will be shared with Lockheed Martin.

Wilbur Trafton, NASA associate administrator for Space Flight, emphasized that the agreement will have no impact on discussions between NASA and USA in preparation for USA's transition to the role of single prime contractor for Shuttle operations.

"Negotiations with Kent Black (chief executive officer of USA) and his USA organization are continuing as planned. Finalizing the details of the Boeing/Rockwell merger will take several more months and we will of course pay close attention to areas that involve or impact NASA. It is still our hope and expectation to sign the Shuttle single-prime contract with USA in the October time frame," Trafton said in a statement.

Rockwell's Rocketdyne division prepares and processes the Space Shuttle main engines for launch. The Space Systems Division holds the KSC logistics contract and provides support engineering for the space center.

The sale will help Rockwell shift its emphasis to higher-growth commercial and international businesses, specifically the area of electronics, said Donald Beall, Rockwell chairman and chief executive officer. "Rockwell's automation, avionics and communications, semiconductor systems and automotive components businesses, leading global competitors with strong market positions, just got stronger," he said.

Phil Condit, Boeing president and chief executive officer, said, "The assets and capabilities we are acquiring are an extremely good strategic fit with our long-term objective of creating stockholder value. This merger accelerates us on our way to achieving our 20-year vision, which calls for Boeing to be a fully integrated aerospace company designing, producing and supporting commercial airplanes, defense systems, and defense and space systems."

Condit emphasized that the intention of the acquisition is to expand the company's business base and opportunities. He said he expects minimal impact on existing jobs.

"My desire," Condit said, "is to absorb any necessary employment adjustments through normal attrition and by retraining employees to take advantage of new business or career opportunities within Boeing. Both of our organizations have records of strong performance and we expect to learn best new practices that will bring increased product value to our customers."

Correction

A photo caption in the Aug. 2 edition of *Spaceport News* misidentified the school that will be participating in an internship program established by the Administration Office's University Programs division. Bethune Cookman College is the participating school.

NASA news briefs

KSC employee named to Clipper-Graham board

A KSC employee has been named to the five-member board appointed to investigate the recent post-landing incident involving the Clipper Graham (DC-XA) rocket.

Warren Wiley, deputy manager of launch integration is a member of the board chaired by former astronaut Vance Brand.

Brand presently is Assistant Chief of Flight Operations Directorate and Chief of Shuttle and Flight Support Office at NASA's Dryden Flight Research Center, Edwards, CA. Other members of the board are: George Hopson, Marshall Space Flight Center, Huntsville, AL; Charles E. Harris, Langley Research Center, Hampton, VA; and Lt. Col. David Sharp, USAF Safety Center, NM.

The board anticipates submitting a final report in approximately two months.

On July 31, Clipper Graham successfully flew a two- minute,20-second flight profile — the fourth in the current series — but tipped over and caught fire when one of four landing gears failed to deploy.

Agencies team up to improve aerial firefighting efficiency

In an effort to improve aerial firefighting safety and efficiency, NASA, the Bureau of Land Management, the USDA Forest Service and the Nevada Division of Forestry are cooperating to examine and evaluate aerial firefighting communications and the airspace structures over wildland fires.

The agencies also are evaluating an electronic Advanced Navigation Display System (ANDS), developed by NASA's Ames Research Center, Mountain View, CA, to aid aerial firefighters in their communications and operations.

"This project potentially will help aerial commanders direct their assault on a wildland fire by simplifying, standardizing and reducing their verbal communications," said Ames' Vernol Battiste, the project's principal investigator and a former air traffic controller.

"Loss of situational awareness by pilots in high workload situations often has disastrous consequences," he said.

"Our research will assist firefighting agencies nationwide in identifying solutions that should reduce the cost of extinguishing fires and improve safety during aerial firefighting operations," added Battiste.

New cockpit weather system to enhance airline safety

A NASA-developed system that can provide pilots with up-to-date and easily accessible weather information is taking to the air.

NASA, United Airlines and McDonnell Douglas are evaluating a DC-10 equipped with an experimental cockpit weather system and other innovative technologies. The DC-10 is scheduled to fly a "show and tell" flight in the San Francisco area in mid-July and will then fly normal passenger-carrying service around the nation through September.

Weather plays a significant role in the efficiency of transportation aircraft.

Timely routing around hazardous weather increases the margin of safety between airplanes and potentially dangerous conditions, leading to significant operational cost savings, increased safety, and improved passenger and crew comfort.

To efficiently route aircraft around such conditions, pilots need the up-to-the-minute status of the weather along an aircraft's intended flight path.

Developed by Dr. Charles H. Scanlon at NASA's Langley Research Center,Hampton, VA, the Cockpit Weather Information (CWIN) system can provide flight crews with up-to-date graphical weather data in a more timely and easy to understand manner than current methods.

*Flight crews now receive in-flight weather updates in the form of voice or printed data, leaving them to assimilate information into a mental picture of the conditions near their intended path.

This is time consuming and may not present a clear or accurate picture.

Also, current radar readings can be limited by distance and blockages.

First welding experiment to fly on Shuttle tested

Astronauts went underwater recently at NASA's Marshall Space Flight Center, Huntsville, AL, to test procedures for the first welding experiment to fly on the Space Shuttle.

The experimental welder, scheduled to fly on the Shuttle next fall, may one day allow crews to make repairs to the International Space Station or other satellites while in space.

"We had a very successful test taking us a step closer to our goal of flying this experiment on the Shuttle next fall," said Carolyn Russell, Principal Investigator for the International Space Welding Experiment at Marshall.

The test, conducted in a large water tank known as the Neutral Bouyancy Simulator, evaluated mobility aids, foot restraints and hand holds necessary to perform the experiment in the Shuttle's cargo bay.

The test team also gauged the effectiveness of some new hardware, including a camera and a work station designed to accommodate different-sized astronauts.

NASA partners with FAA on propulsion systems

NASA has announced a partnership with the FAA and the U.S. aviation industry for a new program that will address the critical need to improve affordability and performance of U.S. light general aviation aircraft propulsion systems.

The General Aviation Propulsion (GAP) program was established to develop technologies and manufacturing processes for revolutionary, low-cost, environmentally-compliant propulsion systems and to flight-demonstrate these propulsion systems on advanced aircraft.

The focus is on the light general aviation aircraft which have six seats or less.

"New advanced propulsion systems are the key to tomorrow's affordable, user-friendly general aviation aircraft," said Leo Burkardt, manager of the GAP program at the Lewis Research Center, Cleveland, OH.

"According to a NASA Aeronautics Advisory Committee's General Aviation Task Force Report," Burkardt said," replacing today's outdated light aircraft propulsion systems is perhaps the most important factor in helping to revitalize the light aircraft market.

This four-year, technology development program will be implemented through Cooperative Agreements with U.S. aviation industry. Two cooperative agreements are expected to be issued in October.

Position. . .

(Continued from Page 1)

subject to final approval by NASA Headquarters.

In her newly established position, Morgan will be responsible for insuring that KSC infrastructure and KSC operational procedures match improvements to the Shuttle flight systems.

Working agency-wide

In describing the position, Honeycutt said Morgan will be working closely with NASA Headquarters, the Johnson Space Center, the Marshall Space Flight Center and others to insure that proposed upgrades to the Shuttle will streamline the processing done at KSC for launch while maintaining the safety of flight.

Morgan, who will report to Honeycutt, said she will be working with all directorates at KSC as well as with Shuttle program leaders throughout the agency.

She said her initial focus will be on establishing good integration with designers in Houston, making sure planned improvements enhance Shuttle operability and reduce costs and that safety remains in the forefront.

Next to address are infrastructure improvements. This is a great opportunity for NASA engineers to get some hands-on experience in new systems, she said.

"From a practical standpoint the Shuttle will have flown 20 years by 2001. We're looking ahead at making changes in design and systems to improve efficiency while maintaining or imrpving safety in the years ahead," she said.

Specific KSC upgrade ideas will be examined during a strategy sessions next month, she said.

Morgan has served as director of the Safety and Mission Assurance Directorate at KSC for the past 2-1/2 years. During the previous 10 years, she worked in the Payload Processing Directorate, where she managed payload projects and ground operations. During her more than 30 years in U.S. human space flight programs, Morgan contributed to the success of programs ranging from Mercury through the Space Shuttle.

Breakfield takes new role

As the new director for Safety and Mission Assurance, Breakfield will have overall responsibility for KSC's safety, reliability, maintainability, quality and mission assurance programs.

He has served as director, Payload Flight Systems at KSC since 1985.

Breakfield joined NASA in 1964 and was involved in KSC's development of real-time guidance and navigation data processing software for Saturn launch vehicles and Apollo launch data systems.

He has served as chief of the Shuttle Launch Processing Division, chief of the Shuttle Guidance, Navigation and Digital Systems Division and deputy director of Shuttle Engineering at KSC.

In his most recent assignment, Breakfield has been involved in coordination and planning of payload processing and engineering support for the Space Shuttle.

Experience awarded

In announcing the appointments, Honeycutt congratulated both KSC executives on their new assignments. "JoAnn Morgan is the ideal person to take charge of KSC activities in support of the Shuttle upgrade effort," he said. "Her long experience in project management and her recent leadership of our safety program are an ideal combination for successful support of this critical NASA initiative."

Honeycutt added: "Tom Breakfield is one of the most highly respected managers in the agency. His leadership will ensure continued success of the safety and mission assurance programs at KSC."

Royal visit

CROWN PRINCE Dipendra of Nepal visits with Center Director Jay Honeycutt on July 30. The prince and his party toured the Shuttle Landing Facility, the Orbiter Processing Facility, the Vehicle Assembly Building, Launch Pad A and the KSC Visitor Center.

O&C exercise facility to host open house

The exercise facility at the Operations and Checkout Building will celebrate the acquisition of top-of-the-line Cybex strength training equipment with an open house Aug. 30 beginning at 10:30 a.m.

In addition to adding new equipment, KSC's original exercise facility has expanded with additional room for working out and an exercise room for aerobics classes.

All badged employees can use the exercise facilities with medical clearance.

Heart attack emphasizes importance of CPR

Thanks to the quick actions of two KSC employees trained in CPR, a third employee was recently resuscitated following a heart attack recently.

Capt. Larry Fallon of EG&G Fire Services commended Christy Matthews of EG&G and Matt Atkinson of McDonnell Douglas for their immediate response and KSC firefighters who continued life saving efforts at the scene. Fallon said the incident stresses the benefits gained through proper use of the life-saving technique.

John F. Kennedy Space Center

Spaceport News

The *Spaceport News* is an official publication of the Kennedy Space Center and is published on alternate Fridays by the Public Affairs Office in the interest of KSC civil service and contractor employees.

Contributions are welcome and should be submitted two weeks before publication to the Media Services Branch, PA-MSB. E-mail submissions can be sent to Barbara.Compton-1@kmail.ksc.nasa.gov

Managing editor. . . . . Lisa Malone
Editor. . . . . .Barb Compton
Editorial support provided by Sherikon Space Systems Inc. writers group.

USGPO: 733-096/20027