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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

Docking sets the stage for STS-106

The successful docking of Zvezda, the Russian Service Module, with the International Space Station on July 25 cleared the way for the STS-106 mission, which is scheduled for launch Sept. 8.

Space Shuttle Atlantis will once again return to space on its second of back-to-back missions to the Station. Mission STS-106 will prepare the Station for its first resident crew, "Expedition One." That crew is scheduled to begin residing aboard the Station this fall.

Zvezda will serve as the support and control components for the rest of the Station as well as the early living quarters and lab space for the first long-duration crew.

After Atlantis docks with the Space Station, the seven-member STS-106 crew will perform support tasks on orbit, transfer supplies and prepare the Zvezda living quarters.

In addition, Atlantis' Mission Specialists Ed Lu and Yuri Malenchenko will perform a six-and-a-half hour spacewalk to connect the electrical lines and data cables from the Service Module to the rest of the Station.

The Space Station will be stocked with basic life-support systems, including batteries and water for drinking and meal preparation. In addition, the crew will install an exercise bicycle and treadmill.

KSC employees accompany the orbiter Atlantis as it is moved aboard the orbiter transporter to the Vehicle Assembly Building. The launch is targeted for Sept. 8.

After completion of tasks, the Space Shuttle will undock from the Station and conduct a flyaround to photographically document the exterior of the Station. The photographs will be used by engineers on Earth to study the effects of the space environment on the Station in order to plan for future spacewalks.

The Station represents a global partnership of 16 nations and will provide more space for research than any spacecraft ever built.

More than 40 space flights and multiple space vehicles will deliver more that 100 Station components to Earth orbit for assemby.

• *For coverage on Space Station trusses now being processed, see pages 4 and 5.*

• *For more about the promise that the Station holds for science, turn to pages 6 and 7.*

SPECIAL COLOR EDITION coming Aug. 25:

"A Day in the Life of KSC"
Spaceport News goes behind the scenes at Kennedy Space Center to show our team at work.

Inside

Savings Bond drive breaks record

More than 15 million Americans will purchase savings bonds this year in an effort to obtain a balance in their portfolios.

Employees at the Kennedy Space Center are no exception to this rule and have already set the pace for "Creating a New Century of Savings" with their 2000 Savings Bond Campaign.

The annual Savings Bond drive, which began on July 11, ended with record-breaking results on July 28.

"The Kennedy Space Center has always led the way in Agency participation," said Jim Jennings, deputy director and chairman for this year's campaign. "I am proud to see our employees continue that tradition with the results of this year's campaign."

Kathy Bryant, chief of cost and personnel services in the Chief Financial Officers Directorate, was co-chair of the 2000 Kennedy Space Center Savings Bond Campaign.

Bryant reported that participation this year far exceeded the original goals for the campaign through a 5 percent increase in participation by new bondholders and a 16 percent overall participation rate combining both new and current bondholders.

Series EE Bonds, which pay interest to holders based upon the Treasury rate, were made available for purchase this year, but plans for the 2001 campaign have already begun with the possible availability of I Bonds.

I Bonds pay interest to holders based on a fixed rate of return with an inflationary additive. Campaigns like the 2000 Savings Bond Drive take hours of planning and hard work. Many volunteers supported this year's campaign, helping make attainment of the goal much easier.

"We greatly appreciate all the efforts of our canvass volunteers and GG Savings Bond Team members throughout the Center," said Bryant. "We couldn't have surpassed our goal without them and their wonderful gifts of time."

Commander joins KSC launch team

EDITOR'S NOTE: *Spaceport News* invited Col. Jim Halsell, Kennedy Space Center's new manager of Space Shuttle Program Launch Integration, to share his thoughts on his new assignment. Halsell became an astronaut in July 1991. A five-flight veteran, the U.S. Air Force colonel has logged more than 1,250 hours in space and served a stint as NASA Director of Operations at the Yuri Gagarin Cosmonaut Training Center in Star City, Russia. Halsell commanded STS-101 in May.

Col. Jim Halsell – KSC's new manager of Space Shuttle Program Launch Integrations – is pictured weightless during STS-101, the 2nd International Space Station Mission, in May. At top right, he's pictured during training for the STS-101 mission at Johnson Space Center. Also at right, Halsell is featured in his first official KSC portrait, taken in his office at KSC Headquarters.

Q. How has your previous experience prepared you for your new position ?

A. Having flown a few Shuttle flights, I can bring an operational experience to the many review boards which are often asked to waiver or alter requirements. This flight experience arms me with a knowledge of what's important and what's not from the crew perspective. But it's also true that I come to this job needing to quickly learn more of the details of Shuttle processing.

I have already been greatly assisted in this task by the unselfish support of all the NASA and contractor folks I've come in contact with.

Q. What unique perspective on your new job do you have because of your experience as an astronaut?

A. On every mission, I've landed with a sense of awe for the technological prowess demonstrated by the vehicle. I don't care if it is twenty years old; there is nothing else in the world that does what the Space Shuttle does. And we should never take it for granted or consider it "old hat."

Q. What are your initial impressions about your staff here at KSC?

A. That they are truly competent, dedicated to the success of the program, and proud to be an important part of every launch. But then, this sums up the attitude of just about everybody at KSC.

Q. How does living here in Brevard County compare to living in the Houston area?

A. The ocean breezes seem to keep the temperature a few degrees cooler than Houston, but the mosquitoes are definitely more aggressive than their Houston cousins.

Q. Will you fly on the Space Shuttle again or is this a long-term assignment?

A. This is a long-term assignment which I'm very proud to be asked to fill.

My wife and I have bought a house on Merritt Island and we're busy moving in.

At a personal level, I'm excited to get an opportunity to contribute at the Program level to this historic period of the construction of the International Space Station.

I also get a chance to learn about and be a part of that other half of an orbiter's flight cycle which is largely invisible to the flight crews: the processing.

And I feel privileged to get a chance to work on the KSC director's senior staff.

At the same time, I plan on keeping my T-38 flying current and occasionally getting a proficiency flight in the Shuttle Training Aircraft.

If, at some point in the future, NASA management considers me for a flight assignment, I'll be ready.

Q. Is there anything else you would like to say to the workers here at KSC?

A. Thanks! I said it at the STS-101 crew debrief and I'll say it again here:

Atlantis had not flown for over two years before STS-101.

During that time, it had been torn apart and put back together at Palmdale, had the instrument panel ripped out and replaced with a brand new glass cockpit, and had undergone the severe inspections for wiring deficiencies.

All this in addition to the normal, but always challenging, processing flow.

And yet, we had not one significant anomaly during the entire flight.

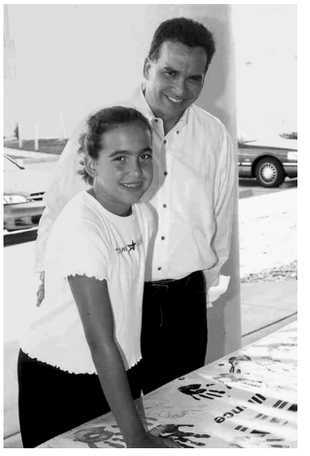
That is the finest testimony I can imagine for the skill and dedication of the men and women who work at Kennedy Space Center.

As this interview is taking place, the Russian service module has just successfully docked with the ISS.

After years of delay, the logjam is broken and we're about to attempt one of the most aggressive Shuttle flight schedules ever seen.

Let's get ready to work hard, but to not be feel pressured to reduce our safety standards in the process.

Children go where they've never gone before



At left, adults and children check out the Astronaut Crew Quarters after waiting their turn in line. Above, workers share the KSC experience with children, including making a VPP safety banner.

Take Our Children to Work Day features special opportunites

The future of space science and exploration is in good hands.

That was easy to see from the looks of the turnout of KSC's eighth annual Take Our Children To Work Day held on Friday, July 28.

There were 3,170 visitor badges issued, with 525 of them being for NASA children, and 1,450 for United Space Alliance participants. The theme for the day was "Freedom to Be What I Dream in 2000."

Kids were allowed access to areas like the Astronaut Crew Quarters that have been, during previous years, restricted to all but the necessary personnel. Anyone who waited in line for this unique opportunity knows that it was a big hit with children and adults.

Another bonus was a special bus tour that took the young ones to places that normal KSC Visitor Complex bus tours can't go, such as an up-close tour of Launch Complex 39's Pad A.

The Visitor Complex's spaceman was also on hand, and he was popular with the kids and the adults who brought their cameras to archive the special day for posterity.

The day of learning began at 7:30 a.m. at the Visitor Complex IMAX Theater where the Exploration Station team demonstrated fun scientific principles to a rapt audience of both children and adults. Later, there was a robotics demonstration near the Astronaut's Memorial by NASA hazardous duty robotics specialist Steve Van Meter and the For Inspiration and Recognition of Science and Technology (FIRST) robotics group.

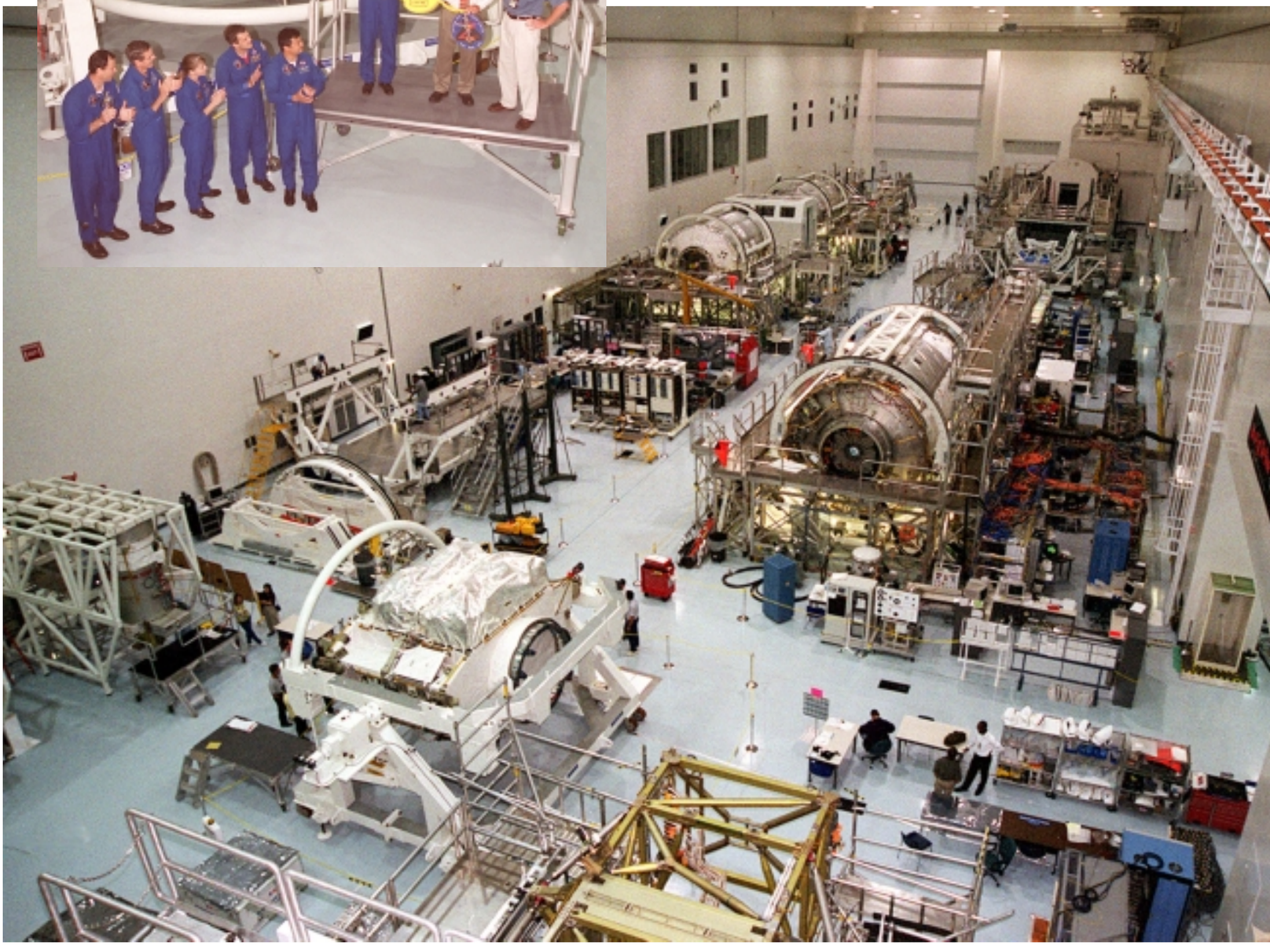
The Air Force Museum at the Cape Canaveral Air Force Station was also open to Center employees and their children. Tours were available most of the day, and children were treated to special historical displays and exhibits by the Air Force's 45th Space Wing.

The fire station near the Vehicle Assembly Building brought out emergency equipment for the kids to view. Fire engines, emergency rescue vehicles, and an armored personnel carrier, used to rescue the shuttle crew in case of emergency, were just a few of the cool things for the children to explore. Safety was a main focus of the day's programs.

The Voluntary Protection Program team planned a special activity for the children. Six banners with the United Space Alliance and VPP logos proclaiming, "Work safely ... for me!" were imprinted with the hand prints of kids who were shadowing parents and friends at KSC.

The banners with the special safety message to employees from their children will be hung in key work areas to provide both encouragement and knowledge of safety issues.

Station trusses



By 'Guppy' and

Two International Space Station (ISS) truss segments, the "P1" and "P4," recently arrived at Kennedy Space Center for processing.

The P1 truss arrived on July 26 at KSC's Shuttle Landing Facility aboard the "Super Guppy" transport aircraft.

The P1 truss is a 46-by-15 foot structure weighing about 32,000 pounds when fully outfitted and ready for launch.

It will attach to the port side of the center truss, the "S0," and will be the third truss assembled to the ISS as part of a 10-truss girder-like

on the move

NASA receives Zenith 1 truss from Boeing

The Zenith 1 (Z 1) truss, the cornerstone truss for the International Space Station (ISS), was symbolically transferred to NASA from The Boeing Co. on July 31.

The transfer signaled the completion of prelaunch processing at KSC's Space Station Processing Facility (SSPF).

The Z 1 is scheduled to fly in Space Shuttle Discovery's payload bay on STS-92, targeted for launch Oct. 5, 2000.

Z 1 is considered a cornerstone because it carries critical components of the Station's attitude, communications, thermal and power control systems as well as four control moment gyros, high and low gain antenna systems, and two plasma contactor units used to disperse electrical charge.

The Z 1 truss and a Pressurized Mating Adapter (PMA-3), also flying to the Station on the same mission, will be the first major U.S. elements flown to the ISS aboard the Shuttle since the launch of the Unity element in December 1998.

John Elbon, Boeing director of ISS ground operations, presented a symbolic key for the truss to Tip Talone, NASA director of International Space Station and Payload Processing at KSC, and Brian Duffy, Commander of STS-92. Duffy's STS-92 crew, here for the Crew Equipment Interface Test, also attended the ceremony.

Clockwise from top left: John Elbon, Boeing director of ISS ground operations, presents a symbolic key for the Zenith 1 truss, in background, to Tip Talone, NASA director of International Space Station and Payload Processing at KSC, and Brian Duffy, Commander of STS-92. Other members of the STS-92 astronaut flight crew, here for the Crew Equipment Interface Test, also look on at the Space Station Processing Facility; Station elements being processed at the SSPF. The Z 1 truss is pictured in the bottom lefthand corner; The P1 truss arrives at KSC's Shuttle Landing Facility aboard the "Super Guppy" transport aircraft; The Guppy is opened to offload the truss segment; and a trailer delivers the P4 truss to the SSPF.

d by trailer: P1, P4 trusses arrive at KSC for processing

structure that will ultimately extend the length of a football field.

Scheduled for launch in the spring of 2002, astronauts will use the Orbiter's robot arm to attach the P1 truss to the S0 truss. During later assembly flights, the astronauts will attach remaining truss segments to the port side of P1.

The P1 was transported to the Operations and Checkout (O&C) facility, which has been reconfigured from a Spacelab processing facility to accommodate ISS truss processing.

The P1 was manufactured by a division of The Boeing Co. in Huntington Beach, Calif., and assembled in Huntsville, Ala.

During processing at KSC, one radiator wing comprising three radiator assemblies will be installed on the P1 truss structure. The P1 radiators dispose of thermal energy to space to maintain thermal conditioning for the ISS.

The truss segment known as "P4" arrived at KSC on July 30.

The P4 made a weeklong journey to the Space Station Processing Facility via trailer from a Boeing plant in Tulsa, Okla.

The P4 truss segment is slated to launch in February 2003. The P4 truss eventually will be mated to the P3 truss.

On-orbit, the P3/P4 integrated truss will be attached to the P1.

The P4 truss will provide the Station with additional electrical power producing capability in addition to the P6 truss module scheduled to launch later this year.

During processing at KSC, two massive solar arrays and 26 electrical boxes will be installed on the P4 truss. The solar energy captured by the arrays will be converted in electrical power used to operate the existing U.S. Laboratory module Destiny and future experiment modules provided by the European and Japanese space agencies.

Truss sections currently undergoing pre-flight preparations at KSC include the cornerstone Z 1 truss, which was recently presented to NASA, the inboard trusses P3, P1, S0 and S1, which house the Station's communications and computer equipment, and outboard trusses P4 and P6, which generate power.

Science to get boost from Space Station

Interested in finding a way to slow cancer and the aging process? How about refining crystal growth to produce extreme high-accuracy timing devices? Want to learn how to sow seeds in space and tend to a zero-gravity farm?

These topics and other high technology questions were put before a panel of scientists involved in the creation of experiments for the International Space Station (ISS).

The first in a series of media forums concerning the Space Station was held July 25 at the Kennedy Space Center Press Site. The discussion was made up of scientists in the areas of medicine, agriculture and engineering.

The forum was broadcast on NASA TV and included a question and answer session.

NASA's senior Space Station scientist Dr. Kathy Clark, a member of the distinguished panel, was quick to point out that science experiments on the ISS will not begin until the first three-person crew arrives at the 250-mile-high site. Even then, the hard core science will have to wait at least until the U.S. Laboratory module Destiny is launched early next year.

The discussion centered on the science to be conducted aboard the outpost.

Medical knowledge is in the forefront of the proposed research, and among the panel was surgeon and cancer researcher Dr. Milburn Jessop.

Jessop explained to the audience that cells do not die as quickly in a microgravity environment, allowing researchers to search for, and refine, more effective cancer medicines.

Slowing cell growth has applications not just for cancer, but also for possibly slowing the aging process as well.

It is the removal of the gravity vector from experimental systems that makes the Space Station such an important tool for scientists.

In the past, scientists like Jessop have had to rely on short duration Space Shuttle flights to conduct their experiments. Although the Russian space station Mir offered a platform to conduct long-term science tests, the station was small and prone to hardware problems.

Over a period of 30 years of space science research, only about one year's worth of data has been obtained due to the fact that facilities aboard orbiting platforms such as the Space Shuttle were only available a few days every several months. The amount of information on space science obtained so far has a ratio of about eight ground experiments performed for each space experiment conducted.

Agriculture was another focus of the discussion, and Dr. Mary Muscrave, a plant physiologist, was on hand to talk about the future of plants in space. Muscrave described research initiatives for the ISS, including studying fertilization and seed germination in microgravity.

Here, again, previous short duration flights were not enough to shed light on the complete life cycle of plants while in space. It is necessary for scientists to separate the mechanisms behind phototropism (growth effected by light) from the force of gravitropism (how gravity affects growth).

The ISS will house state-of-the-art plant research facilities, which will allow for insight into the entire plant life cycle under the influence (or lack of influence) of microgravity. It is the removal of the gravity vector from experimental systems that makes the Space Station such an important tool for scientists all around the world.

Fluid dynamics researchers plan to take full advantage of the Station's science packages, as well as scientists involved in combustion in microgravity. Materials science engineers are also hoping that the ISS will provide greater insights into refining products in space.

Microgravity is an ideal environment for crystal growth, but the focuses of these experiments have leaned toward the superconductor and medical fields.

Former astronaut Ron Sega described how microgravity is uniquely suited for growing crystals for use in high-accuracy clocks and timing devices. This resource will lead to advances in Global Positioning Satellite systems and navigation devices both on Earth and in space, even on the way to Mars.

Scheduled for completion in 2005, the ISS will be a worldwide outpost for the earth's best scientists to perform long-term groundbreaking research in an environment that has, for the most part, been out of reach.

The ISS will be an engineering and scientific platform where technology can be tested, perfected, and sent back for application on Earth, but said Clark, "The primary product of the Space Station is going to be knowledge."

Recycling process useful in space, on Earth

Now that humans are spending increasing amounts of time in space, life support systems must be made more self-sufficient, or "closed."

Unlike "open" systems, which require all materials/mass to be replenished, "closed" systems – which would be created in space – must resupply themselves with materials already available or created within the system.

An example of a quasi-closed system (all systems require initial investment of materials) is a bioregenerative controlled ecological life support system.

In this "greenhouse system," all materials are recycled within the system. Plants not only provide food, but also clean CO2 from the air and impurities from wastewater.

It is the waste products that cause some of the greatest threats to astronaut safety, and an easy, cost-effective means was needed to either remove or recycle these products.

A joint US-Canadian team headed by Dr. Cheryl Frazier-Atkinson and others in Life Sciences at Kennedy Space Center have sought an effective means for recycling solid waste, and have designed what is dubbed a reusable space bioconverter (RSB).

Dr. Cheryl Frazier-Atkinson checks a composting unit being used in a Life Sciences study at KSC.

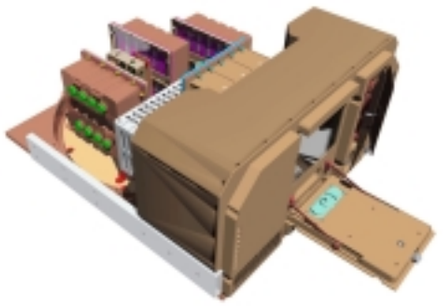
The RSB is, in effect, an aerobic composting unit that can process 6 kg of waste at a time.

The RSB is a metal cylinder that is rotated by a motor controlled by computer. The temperature and rotation can be altered for different needs, and the waste gasses produced (mostly CO2) are passed through a three-stage biofilter to remove odors and other pathogens.

The greatest benefit is that the RSB can reduce solid waste volume by 50 percent within four days. Along with creating a compost by-product that is suitable for soil, the RSB also has an integrated vessel for collecting nutrient-rich leachate that is great for plants.

The team is planning to test the RSB in a closed environment, as well as experimenting with different bacteria that assist the process.

The RSB has potential applications for home and business uses once it is perfected, which is expected within the next 12 to 18 months. Consumers might be able to compost solid waste safely within their house, using this relatively hands-free unit.



Counter-clockwise from upper left: the flight hardware fresh from machining; a 3-D computer rendering of the interior of the experiment package; Ken Anderson, Bionetics Development Engineer with the Flight Experiment Development group, handles the Medusa (Mico Effusion Delivery Unit for space Applications) that will deliver water and fixative to the seeds. Note the small size of the locker to his right in the foreground. Everything must be contained within the locker; a rendering of the Command and Data Management System that will be the interface unit for the crew, complete with an LCD sceen and track-ball mouse.

Life Sciences seeks roots of gravitropism

It's easy for a human to know which way is up and which is down, but how do plants sense gravity?

The inner ear helps us to orient ourselves in response to gravity, but plants don't have ears (unless you're thinking about corn and those ears don't count).

Scientists in Life Sciences at Kennedy Space Center are hoping that an experimental payload on STS-107 will provide results to prove that specialized cells in roots are responsible for gravitropism. The STS-107 mission is set to fly no earlier than May 2001.

Responding to gravity

Gravitropism is the mechanism by which plants respond to gravity, much the same as phototropism is the way plants respond to light. It can be either positive (toward the gravitational pull) or negative (away from gravity).

Roots tend to be positively gravitropic, while stems and stalks generally react negatively. Gravireceptor cells are the specialized cells within plants that change their internal composition in response to the force of gravity.

Most scientists agree that the statocyte cells, located in the root caps and tips of the growing plants, are the cells responsible for gravitropism. Stato-cytes contain gravity-sensing organelles known as statoliths.

But what makes these statoliths especially sensitive to gravity?

The evidence points to starch. Specifically, the intracellular starch granules known as amyloplasts.

Direction of growth

In roots, when the amyloplasts settle to the "bottom" of the cell in response to gravity, the cell growth occurs in the direction the amyloplasts have settled.

Although this is still a hypothesis being studied by scientists, it is far from being a recent suggestion. In 1901 and 1902, respectively, B. Nemec and G. Haberlandt hypothesized that it was the amyloplasts that settle in root cells and are thereby the basic gravity perception mechanism in plants.

Now scientists at NASA have taken the hypothesis further, suggesting that the amyloplasts will react to a stimulus similar to gravity, namely a high gradient magnetic field (HGMF).

Now in the age of microgravity research and the Space Shuttle, scientists have the necessary tools to search for the answers.

Karl Hasenstein, a researcher with the University of Louisiana at Lafayette, has designed an experiment that will test the initial growth response in flaxseeds to a HGMF during the 11-day mission.

Using a BIOTUBE package, Hasenstein will expose flaxseeds to a HGMF. The HGMF will exert a directional, repulsive force on the starch-filled amyloplast and thus cause the seed's early roots to grow as if they were being influenced by earth's gravity vector, but in directions other than vertical.

This will test whether the force exerted by the amyloplasts, or their position inside the sensory cells, controls the direction of root growth. The research, which will provide insight into the gravity-sensing response system of plants, has never before been performed in a controlled environment.

Equipment concerns

Equipment concerns are a serious challenge for the Flight Experiment Development (FED) team from Bionetics, who are the group responsible for the design and fitting of the research package.

The hardware requirements for the orbiter's mid-deck-housed experiment lockers have to be integrated into the needs of the principle investigator, and this is not always an easy task. There are only two cubic feet of volume to work with (20.3" deep, 17.4" wide, and 9.97" tall) and the package has to weigh less than 70 lbs.

Those specifications usually aren't the hardest for the FED team to meet. The locker is allowed to use only 130 watts (the HGMF package will only use about 80 watts). A hand-held hair dryer uses approximately 1,500 watts.

Long-term plans

Once the results of Hasenstein's experiment are reviewed extensively, the next step will be to design a long-term experiment package for the Station. That, in turn, will be the steppingstone to crop growth and maintenance on future Mars missions and other planetary explorations.

Although flax was the target plant, the results will hopefully be analogous to other crop plant species' responses to gravity. Other crop plants will be tested for their response to the HGMF environment in the near future once the ISS is an operational facility.

These experiments are important because plants will not only be used for food, but also to help regenerate the spacecraft's internal atmosphere.

For more information:
http://lsda/payload/pmm.html
http://microgravity.hq.nasa.gov/business.htm

KSC takes part in Team Florida Brazil mission

Kennedy Space Center was one of 200 Florida government and commercial organizations represented during a recent Florida trade and fact-finding mission to Brazil.

The Team Florida Brazil mission – led by Gov. Jeb Bush – offered KSC a chance to expand and create partnerships with business, academic and government groups both in Brazil and Florida.

JoAnn Morgan, director of External Relations and Business Development at KSC, represented NASA as a member of the team's space delegation. Other space-sector representatives included The Boeing Co., United Space Alliance, Hughes, Sverdrup, the Spaceport Florida Authority and Enterprise Florida.

During the opening day events in Sao Paulo, Morgan presented Anthony Harrington, the U.S. ambassador to Brazil, with a plaque featuring a U.S. flag flown on Space Shuttle. The plaque was presented in appreciation for the work Harrington has done this year in support of USA-Brazil space partnerships.

While at various events and in one-on-one discussion, Morgan was able to spread the word about what KSC has to offer and make contacts for future partnerships. KSC's experience with microgravity experiments and environmental management were two areas of particular interest to Brazilian leaders, she said.

"I spoke to lawyers, bankers, academics and a wide range of Brazilian technical professionals," Morgan said. "People came from all over the country to learn more about Florida. They had a number of questions about KSC and I was impressed by how much they already knew about us.

"We're entering a new era of international cooperation both in the space program and in trade. This mission was a demonstration of how beneficial it is to foster partnerships with international partners in a collaborative manner with the state and industry."

Because Brazil is developing its space program and is contributing components to the International Space Station (ISS), the visit also provided Morgan the opportunity to meet leaders from Brazil's launch site and people working on ISS in Brazil.

KSC's Joanne Morgan presents Anthony Harrington, the U.S. ambassador to Brazil, with a plaque featuring a U.S. flag flown on Shuttle.

Brazil is in the process of designing and building Express Pallets and some other elements for the Space Station. Each pallet will have the capability to attach to either the S3 or P3 truss on the Station. The pallets will be used to deliver or return Orbital Replacement Units or payloads. They will also be able to serve as platforms for microgravity experiments.

KSC is supporting the Johnson Space Center ISS External Carriers Office responsible for managing thr cooperative effort with Brazil. The KSC External Carriers Team, led by Jose Nunez, has the responsibility to provide the management, engineering and operations services to develop and implement the resupply and return capability for the Express Pallets, Orbital Replacement Units and payloads to the Station.

The pallets are set to fly during August 2004 and are built by Embraer, based in San Jose Dos Campos, Brazil. Morgan toured an Embraer manufacturing facility during her trip.

"I was very impressed by their professionalism as well as their dedication to safety," Morgan said. "They have safety procedures and emergency numbers printed in English on the back of their visitor badges, so I knew how to behave in emergency conditions."

Brazil's participation in the Station is through two entities: Agencia Espacial Brasileira and Instituto Nacional De Pesquisas Espaciais. AEB is the Brazilian Space Agency, the political arm that deals with the Brazilian Congress regarding policy and funding. INPE is the National Institute for Space Research, which manages Brazilian space research along with the contributions related to the International Space Station Program.

The space sector team from Florida met with representatives of both organizations, flying from San Jose Dos Campos to the capital, Brasilia, for discussions with the Brazilian Space Agency.

Brazil has another tie to the Space Station, the country's first astronaut, Marcos Pontes. Pontes reported to Johnson Space Center in August 1998 and is a Mission Specialist candidate. He has already spent some time working at Kennedy Space Center and is getting to know KSC and Florida.

Community Leaders Briefing held

The annual Community Leaders Briefing, themed "Milestones of the Millenium," was held Aug. 3 at the Kennedy Space Center Visitor Complex.

KSC Director Roy D. Bridges Jr. and Deputy Director James Jennings met with about 250 community leaders from Brevard County and the State of Florida about long-term viability of KSC and benefits the space program contributes to the community.

A wide variety of community leaders, business executives, state and local government officials and other community organizations were invited to the event.

Leaders heard about KSC's vision, budget, employment trends, launch outlook and future goals.

Attendees gathered at the Dr. Kurt H. Debus Conference Facility for a continental breakfast and the briefing. Afterwards, they were invited to a special showing of the IMAX movie "Hail Columbia" in the Galaxy Center and a tour of the Visitor Complex's newest attractions, including "Astronaut Encounter" and "Exploration in the New Millennium."

John F. Kennedy Space Center

Spaceport News

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