



MARSHALL STAR

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Aug. 24, 2006

Atlantis scheduled to launch Aug. 27 on STS-115 mission

By Sanda Martel

Space Shuttle Atlantis is scheduled to lift off from NASA's Kennedy Space Center, Fla., Sunday, Aug. 27, at 3:30 p.m. CDT, for an 11-day mission to the International Space Station. The launch window extends through Sept. 13.

Six astronauts will launch on the STS-115 mission – Space Shuttle Atlantis' 27th flight, the 116th shuttle mission and the 19th U.S. flight to the space station. Landing is scheduled for Sept. 7 at about 11:02 a.m. CDT at the Kennedy Center.

Three spacewalks are planned during the mission, on flight days four, five and seven. If a focused inspection of Atlantis' heat shield is requested once the shuttle is at the station, the mission could be extended by one or two days, changing the flight days on which the spacewalks would be conducted.

As was the case for the recent STS-121 mission in July, Atlantis must launch in daylight hours to permit photography of the external fuel tank once it is jettisoned eight and one-half-minutes after launch.

Atlantis will arrive at the station Aug. 29, with docking set for 11:38 p.m. CDT. The first spacewalk is scheduled for Aug. 30.



NASA/KSC

The STS-115 crew gathers at Kennedy Space Center. From left, mission specialists Joseph Tanner and Heidemarie Stefanyshyn-Piper, commander Brent Jett, pilot Christopher Ferguson, and mission specialists Steven MacLean and Daniel Burbank.

For the first time since late 2002, assembly of the International Space Station will resume. Atlantis' crew members will install a second set of solar arrays — port three and four (P3/P4) integrated truss segment — which will double the station's ability to generate power from sunlight. In its launch configuration, the truss is about 45 feet long, but once on orbit with the solar arrays deployed, it will have a wingspan of almost 240 feet. Together, the new arrays will add 50 kilowatts of power for the complex.

Atlantis' mission also will include all the safety features tested on the past two shuttle flights: improved imagery during launch, heat shield inspections in orbit and a backflip as the shuttle approaches the station.

The STS-115 mission is commanded by U.S. Navy Capt. Brent W. Jett, a veteran of three previous spaceflights, including the STS-97 mission in 2000 to the station that delivered the first U.S. solar arrays on the P6 truss

structure. U.S. Navy Capt. Christopher J. Ferguson will make his first journey into space as the pilot.

See Atlantis on page 8

Marshall Director David King to speak at AIAA luncheon meeting Sept. 7



David King

Marshall Center Director David King will be the featured speaker at the American Institute of Aeronautics and Astronautics, Alabama-Mississippi Section, luncheon meeting on Thursday, Sept. 7.

King will address the center's role in implementing the Vision for Space Exploration — returning to the moon, reaching Mars and traveling to destinations

beyond.

The meeting will begin at 11:15 a.m., with lunch at 11:30 a.m., and will be held at the NASA Education Training Facility at the U.S. Space and Rocket Center. The cost of lunch is \$10 per person.

To confirm a reservation, contact Mike Tinker, AIAA vice chair and programs director, at mike.tinker@nasa.gov or 544-4973. Reservations and cancellations must be received by noon on Wednesday, Aug. 30.

Marshall scientist remembers James Van Allen as teacher and friend

By Mike Wright

From combined reports

For millions of people, the recent death of James Van Allen at age 91 marked the passing of an American icon of science and technology. For Marshall scientist Dennis Gallagher, Van Allen's death also meant the loss of a personal mentor, teacher and friend.

Van Allen's most widely known contribution was the 1958 discovery of radiation belts, now called Van Allen belts, encircling the Earth. He also is credited with discovery of a new moon of Saturn in 1979, as well as radiation belts around that planet.

Gallagher received his graduate degrees from the University of Iowa, where Van Allen also had received a master's degree in 1936 and a doctorate degree in 1939. After World War II, Van Allen returned to the university where he taught for more than 35 years. Gallagher was among the hundreds of scientists who studied under Van Allen.

Van Allen's career took an important turn in 1955 when he and several other American scientists developed proposals for the launch of a scientific satellite as part of the research program conducted during the International Geophysical Year



From left, scientists William Pickering, James Van Allen and Wernher von Braun display the United States' first satellite, Explorer I.

of 1957-1958. After the success of the Soviet Union with Sputnik 1, Van Allen's Explorer spacecraft was approved for launch on a modified Jupiter-C developed by the Wernher von Braun team in Huntsville.

The rocket flew on January 31, 1958, and returned enormously important scientific data about the radiation belts circling the Earth. Van Allen became a celebrity because of the success of that mission, and he went on to other

important scientific projects in space. In one way or another, Van Allen was involved in the first four Explorer probes, the first Pioneers, several Mariner efforts, and the orbiting geophysical observatory.

Gallagher began his studies under Van Allen at the University of Iowa in 1976, where he eventually earned his doctorate degree in physics.

"I went back to Iowa in 2004 to

See Van Allen on page 9

Marshall's Research and Technology Expo to be held Aug. 24

Marshall team members can go "technology shopping" among the more than 100 technologies exhibited at the Marshall Center's Research and Technology Expo, Thursday, Aug. 24, from 9 a.m. to 4 p.m.

The expo, held in Activities Building 4316, will showcase

in-house technology development capabilities and a host of technologies created for programs supporting NASA's exploration and science missions. Marshall representatives will be conducting demonstrations, discussing poster displays and answering questions from attendees.

The face of mission success is: *Curtis Manning, engineer in the Marshall Center's Rapid Prototyping Laboratory*

As a ceramics engineer with the Rapid Prototyping Laboratory in the Marshall Center's Engineering Directorate, Curtis Manning uses cutting-edge technology to find faster, less expensive ways to build items for use in testing and modeling NASA spacecraft. Manning takes a computer-aided design, or CAD drawing, programs the lab's specialized machines and creates a solid, three-dimensional object from plastic, aluminum or even metallic dust.

What are the key responsibilities of your job?

My co-workers and I are responsible for the day-to-day operations and technical maintenance of the Rapid Prototyping Lab that are critical to our systems' performance capabilities.

Once we receive a request for work, the CAD file must be pre-processed to check for bad edges or inconsistencies that can affect the building of the model. Once that is completed, we calibrate, load a machine with the material it requires to build a particular item, perform parameter analysis and finally download the particular file so the machine can begin building the part. When the item is complete, post-processing is done.

My unique responsibilities within the lab include working as a liaison with NASA organizations to convey the benefits of our technology and its relevance to their particular projects. The most basic benefits of rapid prototyping are saving time and money. These are critical elements, especially in the competitive, funding-driven environment we exist in today. With our lab, we can be at the forefront of the manufacturing process to verify concepts so that when production begins, the engineer knows exactly what the final product should be. This process is cost effective enough that several build iterations can be completed prior to manufacturing to optimize the engineer's concept.

What is your education background?

I earned a bachelor's degree in chemistry, with a minor in mathematics, in 1990 from Oakwood College in Huntsville. Before becoming a NASA employee, I taught in the math department at Oakwood for a brief period.

How many years have you been at the Marshall Center?

I have been employed at Marshall for 15 years.

What services does your job provide in support of the center's mission?

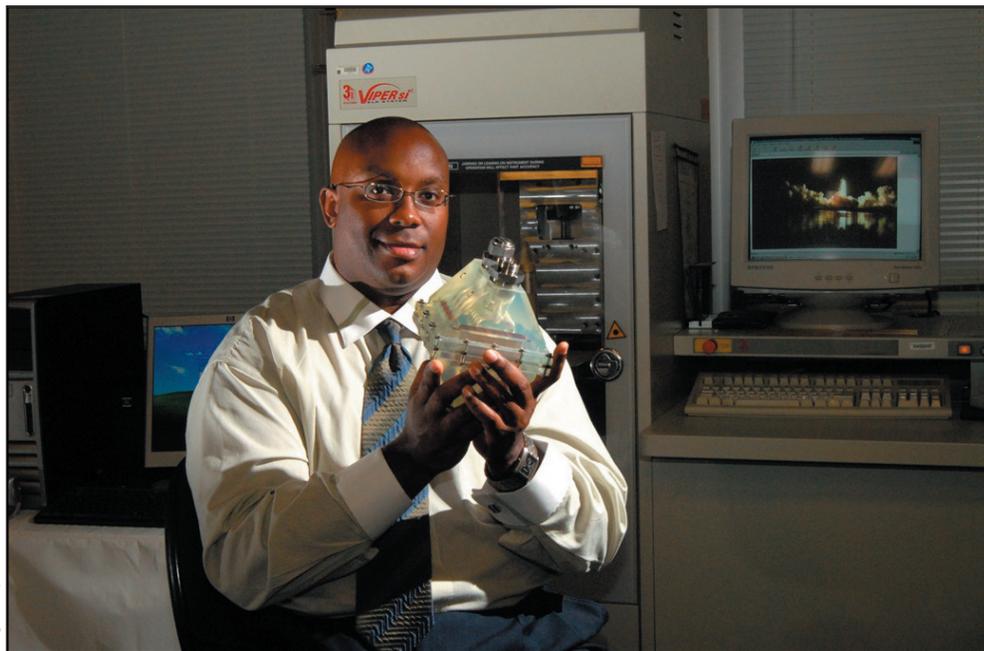
My goal is to aid in NASA's exploration mission. With rapid prototyping, we are helping develop the technology that will give us the ability to someday manufacture in space. By placing a rapid manufacturing process on board a vehicle, we can empower the astronauts to replace tools, make repairs and manufacture new parts while in space. The research and project

support we provide today are fundamental building blocks that will open the doors needed to reach this goal. Every day, new discoveries are being made and new processes created that will help us formulate the ultimate system needed to revolutionize our exploration efforts.

What do you hope to accomplish in your role this year?

I plan to optimize the process of communicating exactly what we have to offer to different groups and project offices. I am sure there are many applications for rapid prototyping that have not been visited as yet. Rapid prototyping liberates the engineer to be as creative as possible with complex geometries and designs. With

See Manning on page 8



Curtis Manning in the Rapid Prototyping Laboratory.

From Apollo to shuttle, Marshall's HOSC has been the 'data director'

Huntsville Operations Support Center remains the key hub for receiving and distributing data for space station, shuttle

By Lori Meggs

Looking to see, hear or downlink data from space? Then look no further than a Marshall Center landmark that most folks at NASA simply refer to as "the HOSC."

The Huntsville Operations Support Center is a multi-mission facility capable of distributing secure mission voice, video and data anywhere in the world. The HOSC is part of the Engineering Directorate's Mission Operations Laboratory that supports space shuttle launch activities in the Shuttle Engineering Support Center, and houses the Payload Operations Center — the command post for science on the International Space Station.

This support activity began in 1958 with the Juno class of space launch vehicles, which were renamed Saturn and transferred from the Army Ballistic Missile Agency to NASA. As NASA developed the Saturn and Apollo programs to land humans on the moon and bring them safely back to Earth, support capabilities expanded.

In 1963, the Launch Information Exchange Facility was established to promote communications between the Saturn development team in Huntsville and the launch operations team at the Kennedy Space Center, Fla. Marshall managers then agreed to provide a flight control team in the Mission Control Center at the Johnson Space Center in Houston for the Saturn launch vehicle,

while providing engineering support in Huntsville. This collaborative effort and partnering in operational execution led to Bldg. 4663 being renamed – the Huntsville Operations Support Center.

"This historical facility began as an engineering capability linking flight data from Kennedy to Marshall," said Lisa Watson-Morgan, chief of the Ground Systems Operations Branch in the Mission Operations Laboratory. "Today it continues to be a key capability for NASA. Our job is to support a mission, whether it is shuttle, station or any other, from pre-launch to its successful completion."

For science operations on the International Space Station, the Payload Operations Center team calculates the time and space required to accommodate space station experiments and programs, linking Earth-bound researchers with their experiments — or payloads — in orbit. Round-the-clock operations by Payload Operations Center flight controllers have established their key role as "the extra space station crew member."

The team coordinates the use of valuable on-orbit resources, orchestrates delivery and retrieval of payloads, ensures safety for space station crews while working with payloads, and configures complex systems on board the station to support payloads. Other members of the Payload Operations Center team train astronauts,

cosmonauts and ground personnel on the procedures and equipment used to safely perform the experiments on orbit, and coordinate plans for payload activities with scientists and control centers around the world.

"We are a proven commodity for the International Space Station," said Lybrease Woodard, manager of the Operations Directors Office in Marshall's Mission Operations Laboratory.

"From our pre-mission preparation of crew and ground support personnel, through the flight product development, to the real-time flight control teams on console, we are ensuring science is carried out on the station — science that is the key to further exploration in space."

The Payload Operations Center team is working to achieve a new capability as a

See HOSC on page 5



Doug Staffey/MSFC

Lybrease Woodard and Joey Pirani of the Marshall Center's Mission Operations Laboratory successfully test a computer system in the Payload Control Area-2, used for simulations and training of International Space Station payload operations flight controllers.

Continued from page 4



The Payload Operations Center, staffed round-the-clock by teams of flight controllers at the Marshall Center, coordinates all U.S. science activities on board the International Space Station.

David Higginbotham/MSC

full backup control center to Johnson's Mission Control Center. That backup is needed in the event the Houston facility is evacuated due to severe weather, such as a hurricane, or any other contingency. Under the plan, the Johnson flight control team could conduct mission operations from Huntsville, either remotely or by physically relocating to Marshall.

"Service from Johnson could be interrupted and Johnson controllers could still send and retrieve commands through our networks here at Marshall," said Joey Pirani, a team lead in the Ground Systems Integration Branch of the Mission Operations Laboratory. "We've already proven our capabilities to mission managers."

Pirani and his team are working on a new communications path from Huntsville to White Sands, N.M., where voice and data commands are uplinked through satellites to the station. The Johnson Center also is upgrading its computer systems to match their equipment to the upgrades made last fall at Marshall. The HOSC transitioned to LINUX servers, significantly increasing the speed and efficiency of gathering and disseminating space station data.

Once the new network is online at Johnson in 2008, the HOSC can become a full backup control center, with Johnson personnel already trained and certified on the duplicate systems in Houston and at Marshall.

The Marshall Center team acted as interim backup control center when Johnson employees were forced to evacuate Houston during Hurricane Rita last September. HOSC personnel activated data telemetry systems that enabled the Moscow Control Center in Russia to assume control of the space station. Johnson employees also logged into space station computers and voice communications remotely, allowing them to continue normal station-to-ground control activities.

While space station activities constitute much of the work in the HOSC, the west side of Bldg. 4663 houses the Shuttle Engineering Support Center where Marshall engineers staff consoles to monitor real-time data from the space shuttle during pre-mission testing, countdown and launch. The HOSC team evaluates and helps solve technical issues that might occur and decides whether Marshall-developed propulsion systems — the external tank, the reusable solid rocket motors, solid rocket boosters and the space shuttle main engines — are "go" for launch.

Sensors on board the shuttle provide more than 11 million measurements of information about the health of these systems. That data is instantaneously transmitted from the launch pad via satellite to the HOSC. This occurs both while the vehicle is on the launch pad and during ascent. The HOSC team also monitors wind conditions surrounding launch and reentry.

Approximately 150 Marshall support center personnel view the

See HOSC on page 6



MSC

Employees in the Huntsville Operations Support Center at the Marshall Center provided support for the first space shuttle launch in April 1981.

Continued from page 5

shuttle via a multiplexed satellite system supporting two closed circuit television feeds, one of which allows Marshall engineers to control camera selections. They also have access to more than 25 direct voice communications lines that link them with the launch site at the Kennedy Center, mission control at the Johnson Center and with shuttle contractor facilities across the country where propulsion system elements are manufactured.

The HOSC is capable of handling more than one mission at a time. It's currently supporting NASA's Chandra X-ray Observatory — the world's most powerful X-ray telescope — and will support Solar-B, an international mission to study the sun.

For Chandra, a handful of systems are maintained in the HOSC so Chandra engineers at Marshall have connectivity to the Smithsonian Astrophysical Observatory in Cambridge, Mass., which controls Chandra science and flight operations.

The HOSC will support the Solar-B launch scheduled for Sept. 23. Engineers will acquire data from Solar-B, put it into the HOSC's data processing system and then distribute the data to Japan for the first 30 days of the mission. Solar-B is led by the Japan Aerospace Exploration Agency, with NASA helping in the development, funding and assembly of the spacecraft's three science instruments.

The HOSC has been a key contributor since the Juno and Apollo Programs, and managers are planning its next phase of support for returning to the moon and going to destinations beyond. The HOSC is preparing to provide engineering support services and data distribution for Ares I and Ares V launch vehicles. Ares I is the crew launch vehicle that will carry the Crew Exploration Vehicle to space. Ares V will serve as NASA's primary vessel for safe, reliable delivery of large-scale hardware and resources to space for use by exploration missions to the moon and beyond.

Payload Operations Center sends first commands directly to space station

By Lori Meggs

The Payload Operations Center on Aug. 16 issued for the first time a command directly to the International Space Station — a departure from the normal mode of routing all commands through the Johnson Space Center in Houston.

The milestone instructions included both a payload command to experiments and a core systems command to vehicle operations. Both were sent directly to White Sands, N.M., where voice and data commands are uplinked through satellites to the station.

"This is an important milestone in our becoming a full backup control center and enhancing our space station support capabilities here at Marshall," said Joey Pirani, a team lead in the Ground Systems Integration Branch of the Mission Operations Laboratory.

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.

"Our expertise in remote operations should make it easier for managers of those missions to carry out operations from wherever they are, without having to come to a specific physical location in Bldg. 4663," added Watson-Morgan. "We can't wait to carry on the history."

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.

Grants and cooperative agreements face-to-face meeting is Aug. 31

Effective Oct. 1, the NASA Shared Services Center will be responsible for the award and administration of new grants and cooperative agreements. Personnel from the NSSC Research Activities Branch will host two presentations about

the transition at the Marshall Center on Aug. 31, Building 4200, conference room 504, from 10 a.m.–11:30 a.m. and 2 p.m.–3:30 p.m.

Marshall personnel with technical responsibilities related to grants and cooperative agreements, resources personnel who fund grants and cooperative agreements, and procurement personnel are invited to attend.

Information about the NSSC

transition, including the Grants and Cooperative Agreements Service Delivery Guide, is available at http://www.nssc.nasa.gov/customer-service/pro/grants_cooperative_agreements/grants_cooperative_agreements/index.htm.

For more information contact Tina Landes, NSSC lead grants officer at 228-813-6175, or Cathy Fletcher, NSSC liaison at 544-7752.

Summer program provides liftoff for career exploration

High school student interns gain work experience more valuable than money

By Kaitlin Beard

This summer, the Marshall Center hosted 11 high school students who volunteered their time working as student interns in the Student Volunteer Service Program. The program, under the guidance of Marshall's Academic Affairs Office, provides qualified high school and college students a means to volunteer their services at the center, gain work experience and knowledge and engage in early career exploration.

Students worked with Marshall team members to learn about the different aspects of the employees' professions. The high school student interns came from area schools including Athens Bible School, Bob Jones High School, Grissom High School, Huntsville City Schools Center for Technology and Madison County Career Technical Center.

Several interns reported that they would like to be part of the cooperative education program at Marshall or start a career with NASA. This type of volunteer program provides students with something more valuable than money — an in-depth look at what types of careers and opportunities are available at Marshall.

To participate in the program, a student must apply for a volunteer intern position; show outstanding promise in all areas of academic study or activities, particularly scientific subjects; and be a U.S. citizen, at least 16 years of age and at least a junior in high school.



Buckhorn High School graduate David Haight, left, and Grissom High School senior Patrick Watson are working on the robot that will be the mascot for the High School Students United with NASA to Create Hardware Program.

Durlean Bradford, education specialist in the Academic Affairs Office and Student Volunteer Service Program coordinator said, "The program is open to all high school or college students that have an interest in science, technology, engineering or mathematics. Most students hear about the intern opportunity through their parents or other Marshall employees."

Mentoring an intern can be tricky. Connie James, video production coordinator with Marshall's Telecommunications and Multimedia Services, admits, "It is truly a time consuming activity to provide guidance to the students, but the payoff is tremendous."



Samantha Little, a senior at Madison County High School, inspects inventory labels she affixed to space station cooling hoses.

"This experience has been a great success," said Bob Zeek, who mentored eight interns working on his team. "It was not hard, just hard keeping up with their speed in completing tasks." Zeek is the program manager for the High School Students United with NASA to Create Hardware Program and a simulation engineer for the International Space Station.

When asked whether she would encourage other employees to sign up to mentor a high school student, James said, "I think that more people should take the time to provide an opportunity for students. We all can point to someone who has helped us along the way and without their assistance we may not be

See Interns on page 10

Atlantis

Continued from page 1

With five spacewalks to his credit, STS-115 mission specialist Joseph R. Tanner will be making his fourth venture into space. He will perform two of the three extravehicular activities, sharing intravehicular duties with mission specialist Heidemarie Stefanyshyn-Piper, a Navy captain, who will be making her first flight into space. Mission specialist Dan Burbank, a U.S. Coast Guard commander, will be making his second spaceflight. Burbank will conduct the second spacewalk of the mission with his colleague Steven MacLean of the Canadian Space Agency. This will be MacLean's second spaceflight.

For more information about the STS-115 crew, visit http://www.nasa.gov/mission_pages/shuttle/shuttlemissions/sts115/index.html.

For more information about the STS-115 mission, visit http://www.nasa.gov/mission_pages/shuttle/main/index.html.

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.

NOAX passes test; could be used for future wing leading edge repairs

A heat shield repair technique engineers at the Marshall Center's Materials and Processes Laboratory helped develop has passed testing at the Johnson Space Center's arc jet facility.

The tests demonstrated that the repair material "NOAX," for non-oxide adhesive experimental, is capable of withstanding the extreme environments to which the shuttle is exposed during reentry.

During the final spacewalk of STS-121, astronauts performed on-orbit shuttle heat shield repairs to wing leading edge reinforced carbon-carbon samples using a material dubbed "NOAX," which is made of a pre-ceramic polymer resin that contains primarily silicon carbide powders.

Manning

Continued from page 3

technology like this, the sky is the limit.

This year, I also want to begin working with educational institutions to raise awareness, not just of this technology, but also of the career opportunities with NASA. Many students in the sciences and mathematics fields limit themselves to just a few career possibilities, but aerospace is usually not among them.

That has to change. It is my dream to become a national representative of NASA to our high schools, colleges and universities. These institutions hold NASA's future and more of us should carry the NASA story, vision and opportunity to them. Hopefully, I will have that opportunity.

What is the biggest challenge you face?

The biggest challenge for the Rapid Prototyping Laboratory is maintaining our unique status. We have one of the nation's largest cross sections of rapid prototyping technology right here at Marshall.

With rapid prototyping advances and funding challenges, it is becoming increasingly difficult to maintain that edge. It is our hope and belief that by getting the word out, we will be able to tap into new areas, fund enhancements to existing technologies,

acquire new technologies and maintain a level of training that will keep us on the competitive edge.

On the personal side, how do you like to spend your leisure time?

I love my family and my church family. My beautiful wife Renee and I have two wonderful daughters, Courtnee and Chanel. We love spending time together.

I also enjoy playing basketball, working out and supporting my wife's new business called Warm Spirit, which features a collection of beauty and healthcare products. I am also director of youth ministries and an elder at First Seventh-day Adventist Church in Huntsville.

This year, I had the honor of being inducted into the Greater Huntsville chapter of "100 Black Men of America," an organization that is devoted to improving the quality of life within our communities. I also recently served on the United Negro College Fund Planning Committee for the Huntsville chapter's 2006 UNCF Gala event held at the Von Braun Center last April.

Bill Hubscher, an ASRI employee who supports the Office of Strategic Analysis and Communications, contributed to this article.

Obituaries

Carlos "Charlie" Valentine Marshall, 83, of Huntsville died June 27. He retired from the Marshall Center in 1980 as a production controller. He is survived by his wife, Glynna M. Marshall; one son, Charles Marshall of Allen, Texas; one daughter, Missy Hanks of Huntsville; and one sister, Rachel Soto of Oxnard, Calif.

William Willis Clever II, 63, of Cocoa Beach, Fla., died June 22. He retired in 2005 as manager of the Marshall Center Resident Office at Kennedy Space Center, Fla. He is survived by his wife, Gail Clever; two sons, Bradley Clever of Cincinnati and Bryan Clever of Liberty Township, Ohio; one daughter, Tara Clever of Cocoa Beach; his father, William Clever of Lakeland, Fla.; and one sister, Luwana Clever of Urbana, Md.

Rowland E. Burns, 70, of Huntsville died June 19. He retired from the Marshall Center in 1994 as an aerospace engineer in vehicle design and mission analysis. He is survived by his wife,

Catherine Hassig Burns; one son, Rowland Michael Burns; two daughters, Catherine Burns Bryan and Susan Elizabeth Burns; and one brother, Thomas Burns of New Castle, Penn.

Dr. Mathias Paul Siebel, 82, of Kenner, La., died June 8. He was a former Marshall Center lab director and manager at the Michoud Assembly Facility. Siebel joined the Marshall Center in 1965 where he served until 1974 as deputy director and then director of the former Manufacturing Engineering Laboratory. He also served on the technical staff of the director of the Space Science Laboratory in the Science and Engineering Directorate before his appointment as manager of the Michoud Assembly Facility in 1979. After his retirement from NASA in 1987, he was a professor of mechanical engineering at the University of New Orleans. Siebel is survived by one sister, Claudia Benoliel of Florence, Italy.

Van Allen

Continued from page 2

join others in celebrating Van's 90th birthday," said Gallagher. "At that time I also presented him a memento from the Marshall Center. As always, he was very humble and unassuming. He was very bright."

Gallagher also recalled Van Allen's humane spirit. He recalled that during his thesis defense he was unable to provide an answer to a question that Van Allen proposed. "The question was one really outside my field of study. However, Van gave me the answer and the degree in spite of my ignorance. That taught me a lesson. And it is one that I have passed on to graduate students since. A student should avoid being too focused in what you learn about your field. He or she should seek a broad familiarity and understanding of the field in which they work as part of what motivates their work

and for the context of their work in that field."

During his career, Van Allen was the principal investigator for scientific investigations on 24 Earth satellites and planetary missions, beginning with the first successful American satellite, Explorer I, and continuing with Pioneer 10 and Pioneer 11. He also helped develop the first plans for an International Geophysical Year.

He was best known for his work in magnetospheric physics. After earning his doctorate, Van Allen accepted employment with the Department of Terrestrial Magnetism at the Carnegie Institution of Washington, where he studied photodisintegration.

In April 1942, he moved to the Applied Physics Laboratory at the Johns Hopkins University where he worked to develop a rugged vacuum tube. He also helped to develop proximity fuses for weapons used in the war, especially for anti-aircraft

projectiles used by the U.S. Navy. By the fall of 1942, he had been commissioned as an officer in the Navy and was sent to the Pacific to field test and complete operational requirements for the proximity fuses.

Upon completing his assignments in World War II, Van Allen returned to civilian life and began working in high altitude research, first for the Applied Physics Laboratory and, after 1950, at the University of Iowa.

Van Allen retired from the University of Iowa in 1985 to become Carver Professor Emeritus of Physics after having served as the head of the Department of Physics and Astronomy from 1951.

"Van was a role model for scientists everywhere. He taught his students and the world so much. For that, I am honored and grateful to have known him," Gallagher said.

Wright is the Marshall Center historian.

Station crew 'kicks it up a notch' with chef Emeril Lagasse

Headquarters news release

The crew of the International Space Station joined chef Emeril Lagasse today after tasting several of his gourmet creations, delivered to space by the Space Shuttle Discovery last month.

Lagasse sent NASA some of his special recipes for potential use in space. After the required testing and processing, five different recipes were selected. Emeril's Mardi Gras jambalaya, mashed potatoes with bacon, green beans with garlic, rice pudding and mixed fruit were delivered to the station in July.

"It's an absolute honor to share my food with you on such a journey," said Lagasse during the special hookup. For Lagasse, the call to the station crew on board doubled as a treat. "Since I was a little boy, I've been a huge fan of the space program."

The station is home to NASA astronaut Jeff Williams, Russian cosmonaut Pavel Vinogradov and European Space Agency astronaut Thomas Reiter.

Station crews usually live and work in space for six months. "Our research has indicated that quality, appetizing food is important for the health and morale of astronauts during space missions, especially long ones," said NASA's Vickie Kloeris, who oversees the development and distribution of food on the space station.

"We sampled the food and especially enjoyed the jambalaya and the kicked up mashed potatoes," Williams said, "in particular, the extra spiciness."

The 'kicked up' cuisine was a welcomed addition to the crew's menu for its zest appeal.

"Our perception of taste is a little bit decreased," Reiter said. "We have a longing for a little bit spicier food."



NASA TV

The Expedition 13 crew shows off food packets "kicked up a notch" by Chef Emeril Lagasse.

Menu options for shuttle and station crews are more extensive than ever before, with about 200 U.S. food items available. Russian food also is available.

Williams suggested Lagasse join them in space one day as the onboard chef.

"Now, that would definitely be kicking it up a few notches," Lagasse said.

To view the video of the event, go to www.nasa.gov/mission_pages/station/behindscenes/emiril_ISS_food.html.

Interns

Continued from page 7

where we are today. In that regard, it's time to pay back to the next generation."

The interns seemed to enjoy the opportunity to perform professional work. Jamie Kenny, an intern from Bob Jones High School who worked in the Materials and Processes Laboratory, said that the most difficult part of being an intern was "the pressure that you have to work under in the lab. The job has to be done correctly, not just done." Most of the interns reported that the main reason they participated in the program

was to gain experience in a particular field.

The volunteer program has been beneficial to both interns and their mentors. All of the mentors agree that the program is worthwhile. Mentor Chip Moore, mechanical engineer in the Materials and Processes Laboratory, said, "The best part is knowing that during one short summer you may have played a significant role in the development of their future."

The writer, a student intern from Grissom High School, supports the Office of Strategic Analysis and Communications.

Classified Ads

To submit a classified ad to the Marshall Star, go to Inside Marshall, to "Employee Resources," and click on "Employee Ads — Submit Ad." Ads are limited to 15 words, including contact numbers. No sales pitches. Deadline for the next issue is 4:30 p.m. Thursday.

Miscellaneous

Washer, dryer and refrigerator, all good working condition, make offer. 256-498-0506

4-Winds hot tub, 6 person unit, \$3,500. 252-434-0499

Student tubular computer desk w/chair, \$30. 772-3303

Sears 16HP Kohler engine riding lawn mower, low hours, 42" cutting deck w/new blades, \$575. 714-3742

Golf clubs, men's left-handed, woods 1/2/5, irons 3-9, PW, SW, putter, no bag, \$150. 882-3983

1994 Crown D/W mobile home, 28x54, 3BR, 2-baths, central heat & air, must be moved, \$25,000. 773-5051

German Shepherd, female, 3-months old, \$100. 256-509-8562

Plush carpet, tan, 90-100 yards; oval kitchen table; Scroll baby bed; satellite antenna, 12'. 881-6040

Ping-pong table, \$50; Foosball/pool table/air hockey combo, \$50. 882-1904

Four cemetery plots at TriCities Memorial, Garden of Christus, Florence, \$5,000. 256-436-1106

Tubular metal bunk bed w/full and twin mattresses, \$125. 655-2732

Blueberry Apple iMac, 333MHz, keyboard, mouse, in original box, \$100. 837-0565

HP printer, All-in-One: scan, copy, media card slots, \$52; CRT 17" monitor, \$40. 655-1986

Electric cooktop, white, 4 burners, \$50. 694-1217

Four side-by-side plots, Valhalla Masonic Garden, \$6,000. 881-9421

Minolta X700 35mm camera w/lenses (28-70mm, 75-260mm, 50mm, 3X converter), flash, \$350. 880-6563

Hitachi Projection TV w/remote, 51", \$600; plaid loveseat & chair, \$80; Cherry dresser/mirror, nightstand, \$60. 337-4297

Custom La-Z-Boy sleeper sofa & loveseat, Thomas Kincaid print, \$175 for both. 325-9890

Spinning reel combo; AbuGarcia 8-bearing Berkley lightning rod, \$45. 256-431-9165

Antique Mahogany platform rocker, \$185; twin wood bedroom set, white, girl's cottage style, \$350. 679-1910

Fish pond pump, UV light, plants, filters, fish, liner, all \$250. 256-721-0872

Toshiba TV, 27", like new condition, \$150. 776-0811

2002 Factory TransAm RamAir hood, red, grills, decals, complete, in box, \$1,250. 461-0096

Honda 3-speed walk-behind mower, convertible, 5 yrs. old, needs tune-up, \$75. 837-1035

Men's medium black leather bomber jacket, \$60. 684-1634

Riding mower and tiller, used for parts/engines good, \$150 for both. 828-5246

"Space Vehicle Design" - Mike Griffin & James French, AIAA Education: Second Edition, shrinkwrapped, new, \$80. 233-0705

Vehicles

1992 Ford Mark III pleasure van, 302/V8 w/overdrive, a/c, \$3,000. 256-753-2583

1994 Toyota Camry, 118K miles, \$3,000. 497-3260

2002 5th wheel camper w/slide-out, 30', sleeps 8, bathroom, kitchen, 18K miles. 721-1260

1999 Yamaha XT225, \$1,650; 1998 Yamaha PW80, \$500. 233-5620

2004 Honda Civic EX, gray, sunroof, \$15,000. 233-6197

1998 GMC Yukon SLT, maroon w/tan leather, heated seats, auto, 4WD, \$9,400. 682-6326

1999 Toyota Camry, black, 175K miles, \$4,500. 714-5596

301 John Deere tractor loader w/bucket and forks, \$8500. 772-9768

1996 Lowes Pontoon boat, 20', 5HP Johnson motor, fishing equipped, \$6,000. 931-638-7518

2003 Avalanche Z66, black, 59K miles, \$15,500; 1980 SWB Chevy truck parting out. 679-6319

2003 Jeep Wrangler SE, white, 4-cyl, 38.5K miles, MX6 adjustable shocks, \$13,900. 883-1874

1993 Honda dirt bike CR125, red and white, three sets of plastic, \$850. 214-2427

1989 Toyota Corolla, 159K miles, garage kept, \$2,500. 651-2429

2001 Ford Windstar SE, leather, left sliding door, rear a/c, PW/PDL, am/fm/cassette/CD, 97K miles, \$8,950. 256-497-3951

2003 Olds Alero, silver, V6, auto, loaded, original owner, 36K miles, \$11,500. 508-1381

2002 Grand Prix GT, 4-door, white w/leather, 81K miles. 508-3673

1998 Cadillac Eldorado, red, 2-door, loaded, power sunroof, touring package, 58K miles, \$11,000. 885-2293

1997 Honda Accord, 4-cyl, gold w/tan cloth, automatic, 4-door, 110K miles, \$4,900. 256-679-0485

Wanted

Volkswagen Bug, fair condition, for father/son project. Chuck/509-0256

To rent/borrow double axle boat trailer over a weekend time period. 256-753-6230

Four Alabama vs. Hawaii tickets. 878-8124

Someone to pick-up/care for 8-yr-old daughter, Weatherly Elementary, 2:30-4:30 p.m. four days/week. 489-4150/leave message

Free

Rabbit, Dwarf Rex, black, likes people, velvet fur, small, w/cage, to good home. 256-721-7799

Marshall's Jim Snoddy to speak at American Society of Mechanical Engineers meeting

Jim Snoddy, NASA's manager of the J2X engine development, will be the luncheon speaker at the American Society of Mechanical Engineers meeting Wednesday, Sept. 6.

The meeting will be in conference room M50 of Von Braun Hall at the University of Alabama in Huntsville at 11:30 a.m. Box lunches will be served for \$10. Contact James Denson at 883-2531 or jjdenson@reiszeng.com for reservations. Attendance is open to everyone. One professional development hour certificate will be awarded for attendance.

Shuttle Buddies to meet Aug. 28

The Shuttle Buddies will meet at 9 a.m., Monday, Aug. 28, at Mullins Restaurant on Andrew Jackson Way. For more information, call Deemer Self at 881-7757.

Expo features vendors, 5K run, annual walk

NASA Health and Fitness Expo focuses on a 'Healthier NASA 2006'

By Shelley Miller

There's a well-known connection between being healthy, living well and having a cheerful outlook on life. On Wednesday, Sept. 6, Marshall employees will have an opportunity to experience this connection during the NASA Health and Fitness Expo at the Marshall Activities Building 4316, from 10 a.m. to 2 p.m.

This year's expo theme is a "Healthier NASA 2006." The expo will start with a Run for Fun 5K event at 9 a.m., sponsored by the MARS Running Club. The annual employee one-mile "Walk for the Health of It" will be held at 11 a.m. Vendor exhibits will be open from 10 a.m. to 2 p.m. and will offer a wealth of medical and health fitness information. More than 50 vendors from the area's traditional and nontraditional health community will display their programs and services.

The "bronze shoe" trophies will again be up for grabs. The shoe will be awarded to the organization with the most employee participants and the organization with the highest ratio of participants, in the one-mile walk and 5K run.

"The expo is an enjoyable event for all employees, and this year will be no exception," said David Thaxton, occupational health officer in Marshall's Environmental Engineering and Occupational Health Office. "The activities planned will provide great motivation for evaluating how good lifestyle habits can

be beneficial to an employees' health and well being, both at work and home."

It is proven that daily physical activity can help to reduce the risks associated with a variety of diseases and illnesses.

"Barriers most people face when trying to enhance physical activity are time, access to convenient facilities and a safe environment in which

to be active," said Thaxton. "We're fortunate that events such as the Health and Fitness Expo, the on-site Wellness Center and several health education programs are readily available for Marshall employees to fit their schedules and needs."

Attending the expo and participating in the one-mile walk are at no cost to employees. The Run for Fun 5K race, which is open to all persons with access to Redstone Arsenal, has an event cost of \$10 per person. To receive a T-shirt with registration, participants must deliver entry forms to the NASA Wellness Center by



Doug Stoffer/MSFC

Marshall Center Director David King, far right, is among the first to sign up to participate in the 5K run at NASA's Health and Fitness Expo on Sept. 6. Looking on are, from left, Ryan Decker, vice president of the MARS Running Club; Sam Ortega, president of the MARS Running Club; and Bill Mayo, manager the Marshall Exchange. A "bronze shoe" trophy, similar to the one on the table, will be awarded to the Marshall Center organization with the most participants and the organization with the highest ratio of participants in the one-mile walk and 5K run.

Aug. 25. After that date, entry forms will continue to be accepted at \$5 per person, but registrants will not receive a T-shirt.

For event information, contact either David Thaxton at david.l.thaxton@nasa.gov or May Wales at may.wales@nasa.gov or 544-2390. For Run for Fun 5K race information, contact Sam Ortega at sam.ortega@nasa.gov or 544-9294. For details on the Web, visit http://exchange.msfc.nasa.gov/special2006/run4fun_0727.html.

The writer, an ASRI employee, supports the Office of Strategic Analysis and Communications.

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