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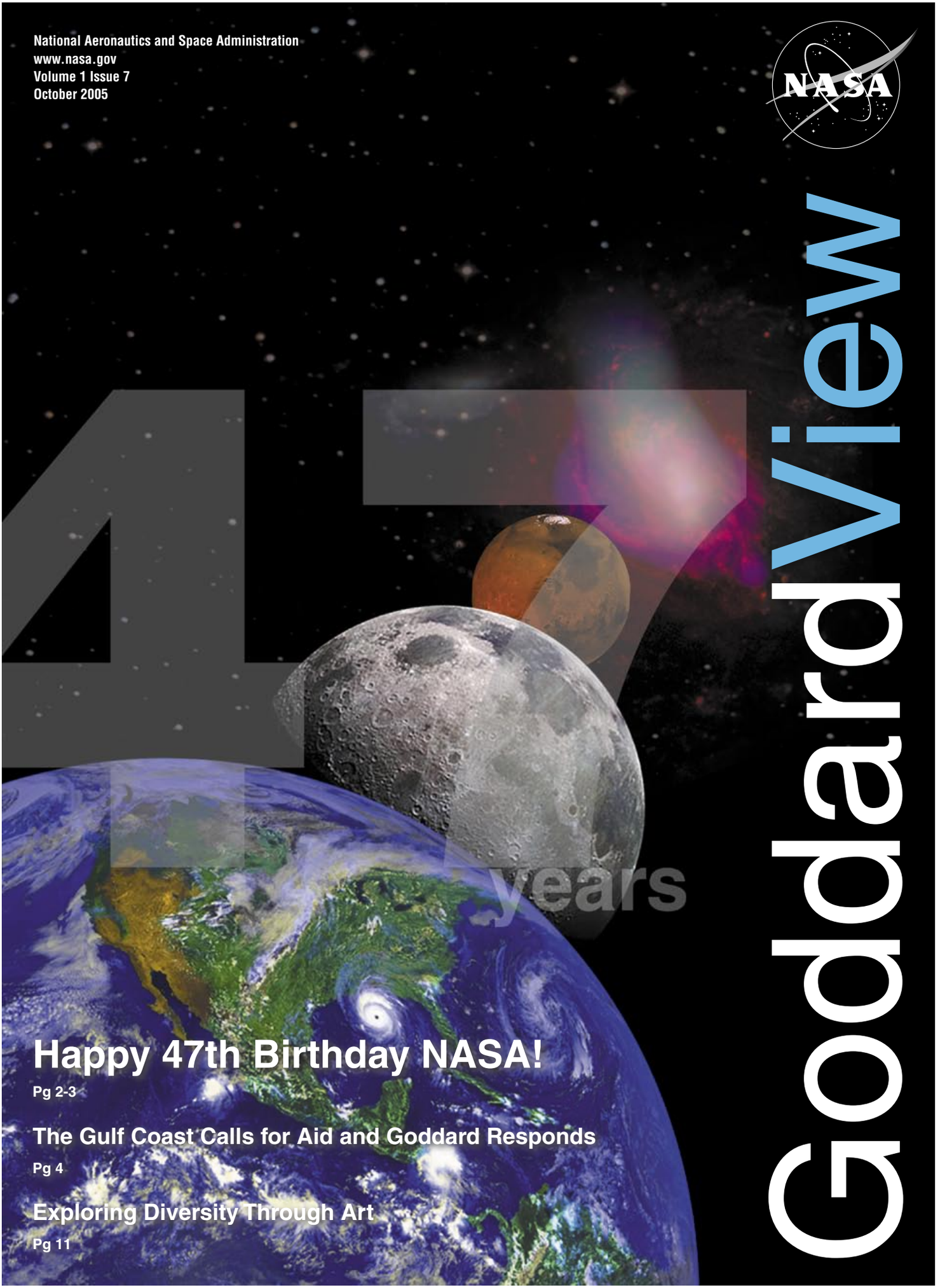

GoddardView

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Happy Birthday NASA

On October 1, NASA celebrates its 47th anniversary. This is a time to take stock of the accomplishments our agency has made in the past and to look forward to the tremendous opportunity we have to assume the mantle of 21st century leadership in the continued exploration and use of space.

The Vision for Space Exploration presented by President George W. Bush gives our agency a new strategic direction, whose pursuit will enhance our nation's scientific, economic and security interests, and will profoundly influence the course of human history.

In the wake of devastating damage from hurricanes Katrina and Rita, there have been recent concerns about whether America's investment in NASA is a luxury we can continue to afford. But just as this country will not eliminate the Navy or the Air Force in order to address pressing current issues, I believe NASA and our civil space program will always have a place in our national life. We will never have sufficient resources to pursue all of the possible goals that might be desirable to accomplish. Given this, the proper debate is not over whether or not we will have a space program, but rather which goals it should pursue. I believe that, if money is to be spent on space, there is little doubt that a huge majority of Americans would prefer to spend it on an exciting, outward-focused, destination-oriented program. This is the program President Bush has put before NASA and the American people.

In securing the public's support for such a course, we must communicate openly and honestly with our fellow citizens about our current capabilities and limitations. To implement the Vision, we will need to develop a new generation of space craft and launch systems. We recently unveiled our plan for this development to Congress and the media. I believe you have seen that the architecture we have put forth accomplishes the goals of the Vision with the greatest economy and the maximum possible utility of our legacy systems and infrastructure, derived from the Apollo and shuttle programs.

Further, the Vision presents us with a rational way to utilize our space shuttle and International Space Station assets in the coming years for promising longer-term purposes. As the authors of the Columbia Accident Investigation Board noted so eloquently, the shuttle and station programs are by themselves insufficient to justify America's investment in human space exploration. The Vision puts these programs into a larger and grander context, where their contribution to our longer term goals becomes apparent.

As we look forward to the events that will define the 21st century, no doubt the expansion of civilization into space will be among the great achievements of this era. It is now our nation's obligation to lead, to seize the opportunity to explore worlds beyond our own, and to help shape the destiny of our world, for centuries to come. Clearly the human imperative to explore will be satisfied by others if not by us. What the United States gains from a robust, focused program of human space exploration is the opportunity to carry our principles and values along on the inevitable outward migration of humanity into the solar system. I am confident that we at NASA are up to this great challenge.

Michael Griffin
NASA Administrator

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Photo Credit: NASA

GoddardView Info

Goddard View is an official publication of the Goddard Space Flight Center. It is published bi-weekly by the Office of Public Affairs in the interest of Goddard employees, contractors, and retirees. Its circulation is approximately 11,500.

Managing Editor: Trusilla Steele
Editor: Alana Little

Deadlines: News items and brief announcements for publication in the Goddard View must be received by noon of the 1st and 3rd Wednesday of the month. You may submit contributions to the editor via e-mail at alittle@pop100.gsfc.nasa.gov. Ideas for new stories are welcome but will be published as space allows. All submissions are subject to editing.

NASA Celebrates 47 Years

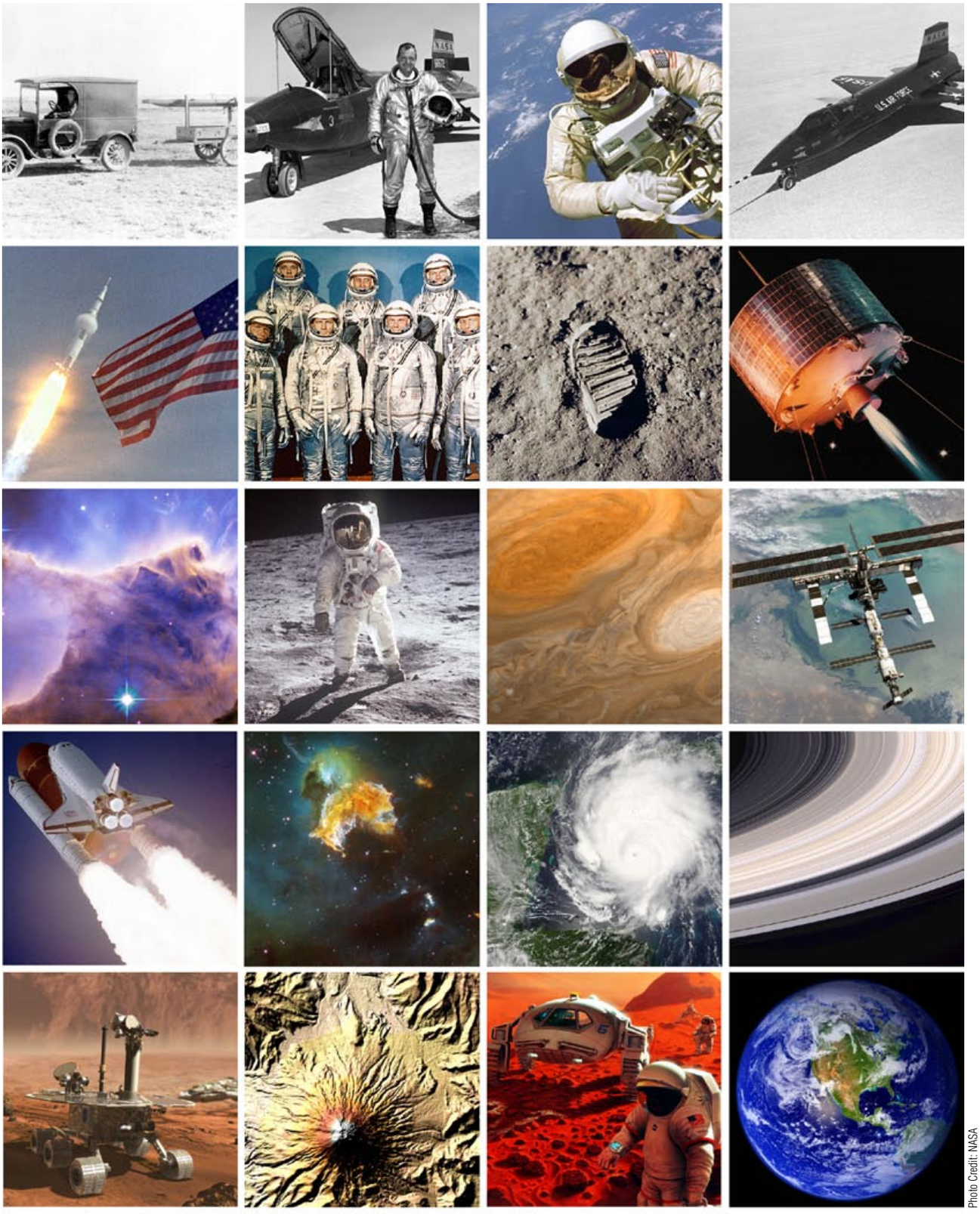

Photo Credit: NASA

The Gulf Coast Calls for Aid and Goddard Responds

By Alana Little

For over a month the news has been filled with images of the destruction hurricanes Katrina and Rita unleashed upon the Gulf Coast area. We've seen 145 foot waves, massive flooding, and the destruction of homes, businesses and families. Now that the damage is done, and the initial shock at Mother

Photo Credit: Debora McCallum

Nature's ferocity is over, those affected cities and towns need help salvaging and rebuilding. More importantly, the people who populated them need help just learning how to cope day to day without the necessities they once took for granted.

On Tuesday, September 13, employees received an urgent message from Dr. Ed Weiler stating that employees and their families at the Stennis and Michoud Centers were in dire need of aid due to the devastation left by the hurricanes.

Center employees responded quickly and in earnest doing what they do best—organizing and mobilizing—to get the maximum results in the shortest amount of time. The relief effort became a three-tiered approach: get those people food, water and necessities; find out what the damage to the area was; and send people down there to help with the relief effort.

Mindy Deyarmin from the Hubble Project Office volunteered to head the non-perishable donation effort and Karen Flynn from the Management Operations Directorate volunteered to coordinate the monetary donations. Bill Lowry, the Goddard Emergency Preparedness coordinator, and our representative for the NASA Emergency Operations Center (EOC) orchestrated the gathering and shipping of supplies and equipment such as emergency generators and satellite phones to aid in the recovery.

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Photo Credit: Debora McCallum

Hurricane Katrina Relief Intake Team

Leap Tall Buildings, Be An Every Day Hero

By Alana Little

"What does an everyday hero look like?" asked Margie Ott, Campaign Manager of this years Combined Federal Campaign (CFC). "Everyday heroes are regular people like tow truck drivers who stop to help you when you are stuck in a broken-down car. They are also soccer mom's and coaches and public servants," she continued.

Basically, an every day hero is anyone who cares about something enough to lend a little time, muscle and/or cash to the cause…any cause all in the name of making a positive difference.

This year's CFC Kick-Off Rally took place on September 30 in the Building 8 auditorium and included a hot dog lunch, a presentation of the colors by Du-Val High School ROTC, a stirring rendition of the National Anthem by Angela Conley from the Explorers Program Office and more musical entertainment by Jolyn Nace of Code 210.H. Guest speakers included Heather Terry from the Make-a-Wish Foundation and Tom Burch, a loaned executive from the CFC National Office who has been assigned to Goddard from August thru December to help area CFC Campaign Managers. Other attendees included representatives from Cure Search, the Elizabeth House, Fish of Laurel, Five Talents International, the National Breast Cancer Coalition Fund (NBCCF), the NASA Family Assistance Fund (NFAF) the National Childhood Cancer Foundation, Save Our Schools Inc, Seeds of Peace, and the Star Light Star Bright Children's Foundation.

In her opening statements, Margie stressed the importance of continuous giving. In September there was a rush to help the victims of Hurricanes Katrina and Rita. Once again Goddard employees did not disappoint and cash donations amounted to $5,702. However, that was a relief effort Margie reminded the crowd. "Recovery efforts will last for years, so please continue to donate to recovery efforts, and continue to give to the other charities to which you normally donate as well," she said. All around the country charities are feeling the lack of funding because people are telling them that they already gave for the year to the Hurricane relief efforts. While that is admirable, if other not-for- profit organizations are not supported they will have to close and the people in our neighborhoods and workplaces who count on them will suffer.

The CFC started in 1957 and is designed to help civil servants give through payroll deduction, check or cash to their favorite charitable organizations. This year it's even easier to give because the process has been streamlined by enabling employees to make donations through WebTADS. During the campaign, when you view your timesheet there will be a banner to click and you can fill out all of your donation information right there. Margie recommends the payroll deduction method of giving because "it's the gift that keeps on giving all year long."

It comes as no surprise that the employees at Goddard are some of the most generous givers in all of the Federal Government—a fact supplied by Tom Burch during his speech. Last year's fundraising goal was $487,000 but Goddard's giving totaled $536,515. That's an average gift of $700 per participating employee. This year Goddard's goal is $500,000 and "we're confident that the employees will reach and exceed that goal with their generous donations," Margie said.

Beginning October 12, Keyworkers—volunteers from each code— will be appearing around Center to solicit donations from civil servants. The campaign ends November 18, 2005. A complete catalog of 3,800 organizations that need your help is available either in print from your Keyworker or online at www.cfcnca.org. Please, give what you can and then give a little extra, you never know when you or someone you care about may need the assistance of one of the organizations in the future.

Photo Credit: Debora McCallum

Guest speaker Heather Terry from the Make a Wish Foundation

The James Webb Space Telescope (JWST)

The James Webb Space Telescope (JWST) is an orbiting infrared observatory that will take the place of the Hubble Space Telescope sometime in 2013. It will study the Universe at the important but previously unobserved epoch of galaxy formation, peering through dust to witness the birth of stars and planetary systems similar to our own. For more information on JWST, please visit: www.jwst.nasa.gov

Photo Credit: Larry Gilbert

Model of the JWST as seen on the Goddard Main lawn.

High-Altitude Small Balloon Experimenter (HASBE) Launch

By Amy Pruett

Brer rabbit wasn't the only one in the briar patches on September 24, 2005 as students, a Goddard scientist, and a University of Maryland (UMD) professor rummaged in the woods of western Howard County, locating their payload-laden weather balloon. The day marked the first High–Altitude Small Balloon Experimenter (HASBE) launch involving schools in the Maryland Space Grant Consortium (MDSGC) and Goddard scientists. Students from the University of Maryland, College Park; Morgan State University; Hagerstown Community College; and Carver Center for Art and Technology High School, gathered at the Fairview Outdoor and Recreation Center in Clear Spring, MD to launch a weather balloon carrying 5 small payloads consisting of cameras and thermometers over 100,000 feet above mean sea level (AMSL) in the two hour flight time.

The event resulted from the inspiration of Pat Kilroy, Integration and Test (I&T) Manager of Code 568. As an expert in spaceflight instrument testing as well as small balloon launches, he noticed that many local schools have their students build payloads for "practice," but few actually ascend into the Earth's atmosphere. He decided that if he could enlist the aid of Goddard know how, he could help students successfully develop, test, fly and recover their small payloads that normally would sit on shelves, collecting dust. So, on May 13, 2005, Kilroy organized the first annual High–Altitude Small Balloon Experimenters (HASBE) symposium at Goddard for interested educators, engineers, and students. Through it, he discovered the MDSGC and established a connection with their affiliated schools and planned a lift off to take place on September 24, 2005.

On the day of the launch, over 30 students gathered from each of the schools involved, excited to watch the payloads they carefully constructed in the previous months lift off. There were five payloads in all, each consisting of a camera with a 40–exposure roll of film that was wired to snap photos at an interval of every two minutes and digital thermometers inside and out, encased in a Styrofoam shell, all attached to the weather balloon and released early Saturday morning. It then ascended 100,000 feet into the air, snapping pictures the entire way until the balloon burst and the payloads returned by parachute to the ground in the midst of thick briar-patch infested woods.

"With HASBE, our humble flight program, we can expose students to basic procedures in mission development, launch and operations. It is my goal that future three–hour missions become microcosms of real NASA missions that will prepare students to come onboard at Goddard as the finest engineers and scientists," says Kilroy.

The HASBE weather balloon that shot into the Earth's atmosphere on September 24 will certainly not be the last. More students, professors, and Goddard engineers will undoubtedly be hunting for weather balloons in briar patches in the future.

For more information, visit
SimSat: http://patkilroy.com/simsat/
HASBE: http://patkilroy.com/symposium/
MDSGC flight: http://patkilroy.com/bpp/

Photo Credit: Pat Kilroy

Students prepare for balloon lift off at Fairview Outdoor Recreation Center in Clear Spring, MD.

NASA Further Developing SpaceWire Technology

By Nicole Quenelle

Officials from the National Aeronautics and Space Administration (NASA) have entered into a cooperative research agreement with a leading U.S. aerospace corporation to transfer NASA SpaceWire technology and assist the company in modifying the technology to support their own space–flight missions. In return, NASA will have access to the modifications. According to NASA, the agreement is a step toward establishing the SpaceWire communications protocol as a de facto space–flight networking standard—which will help to save both industry and government organizations development time and resources for future missions.

Developed in 1999 under the auspices of the European Space Agency, SpaceWire answered a long-standing space–flight problem: no standard high-speed communications protocol existed for flight electronics.

Therefore, all space–flight electronic payloads (such as processing units, on-board computers, and so on) were custom designed on a project–by–project basis, resulting in long development periods, high costs and elevated risks. The SpaceWire standard was developed as a network of nodes and routers interconnected through bi-directional, high–speed serial links—helping to limit the custom–design problem by designing a standard with flexibility, modularity and re-usability.

According to researchers at NASA's Goddard Space Flight Center (GSFC), this flexible, modular, and re-usable design allows aerospace companies to standardize their designs. "SpaceWire lets you create one design that you can go to every time, for every mission," said GSFC's Glenn Rakow, SpaceWire Development Lead.

As part of the agreement, Rakow and his team will provide technical support to the company as it develops its own SpaceWire–based design changes. "We provide a government design for SpaceWire that is well–tested and well–verified," said Rakow. "Then, we help the company as it works to design and standardize upper-level protocols to run on top of SpaceWire, so they can more easily use them from mission to mission." Under the terms of the agreement, NASA will be reimbursed for its time.

According to Rakow, the current SpaceWire standard offers many advantages over other commercial protocols. "In a nutshell, it's flexible," explained Rakow. For example, as compared to Ethernet networks with pre-set link rates, SpaceWire offers flexible link rates, helping save power and providing more options for high-speed applications.

In addition, the standard is topology–independent, meaning that connections between routers or network fabrics can be fashioned in nearly any way that suits the design's needs. Finally, SpaceWire doesn't define a rigid data–packet structure. "It's very scaled down and simple, so it gives the system engineer a lot of flexibility in developing additional protocols," said Rakow.

The new protocol designs and system engineering improvements that result from the agreement will benefit not only the company's missions but NASA's future government missions as well, since they will be added to the ongoing SpaceWire standard.

"SpaceWire technology development can be beneficial for wider U.S. industry and government use," explained Rakow. While the standard is tailored to space–flight systems, the technology behind it may benefit ground applications as well.

"The more people we get using it, the more ideas we'll have," said Rakow. "Industry has expertise that NASA doesn't have and vice versa, and that exchange will benefit the SpaceWire standard, as well as everyone who uses it now and in the future."

For more information about GSFC's SpaceWire technology, contact: Glenn Rakow
Phone: 301-286-5993
Email: Glenn.P.Rakow@nasa.gov
For more information about the SpaceWire standard visit:
http://www.estec.esa.nl/tech/spacewire/
For more information about GSFC's Office of Technology Transfer visit:
http://techtransfer.gsfc.nasa.gov ■

Did You Know?

Infant Formula

NASA's research on nutrition needs for long–duration space travel has led to enriched baby foods containing essential fatty acids found in human milk.

Beyond Einstein: A Voyage

By Leslee Cork

For many, NASM is an acronym that is as recognizable as FBI and CIA. That is because for the past six years, the National Air and Space Museum (NASM) has hosted—along with the NASA Goddard Space Flight Center and Goddard Space Fight Center Contractors' Association—Goddard's annual fall event, which showcases our achievements in Earth science or space science in rotating years. This year, the Maryland Space Business Roundtable was added as a sponsor.

The program included a welcome by NASM Director, General Jack Dailey and remarks by NASA Administrator, Mike Griffin and House Authorization Committee member, Congressmen Ken Calvert. Dr. Michael Turner, a Bruce V. and Diana M. Rauner Distinguished Service Professor from The University of Chicago, was the guest speaker for the evening.

In celebration of the 100th Anniversary of Albert Einstein's legendary articles of relativity, this year's theme was Beyond Einstein: A Voyage From the Birth of the Universe to the End of Time.

The evening began with an elegant reception in the Space Hall Gallery, which overflowed to the Milestones of Flight Gallery. A three-piece jazz group provided the ambiance for the evening. Some of the menu's delicious items included grilled mahi mahi, sesame lamb, butternut squash ravioli, and wild mushroom risotto.

Dr. Turner's captivating multi-media presentation on deep cosmic mysteries examined Einstein's theory of relativity, a theory which has been substantiated by discoveries made by the space program.

Dr. Turner's presentation focused on the Wilkinson Microwave Anisotrophy Probe (WMAP), which was designed to determine the age and content of the universe. As he explained, research from WMAP has confirmed that approximately 70 percent of the universe consists of dark energy, an unknown form of energy not described by Einstein's theories.

This "invitation–only" event is also used as a networking opportunity by the numerous invitees who attend this event, some of which include: industry leaders, local elected officials, White House officials, members of Congress and staff, science policy leaders, educational representatives, and NASA center directors and key staff.

Mr. Roland Anders, a Chief Scientist at Northrop Grumman Electronic Systems stated that, "This year's event was superb." ■

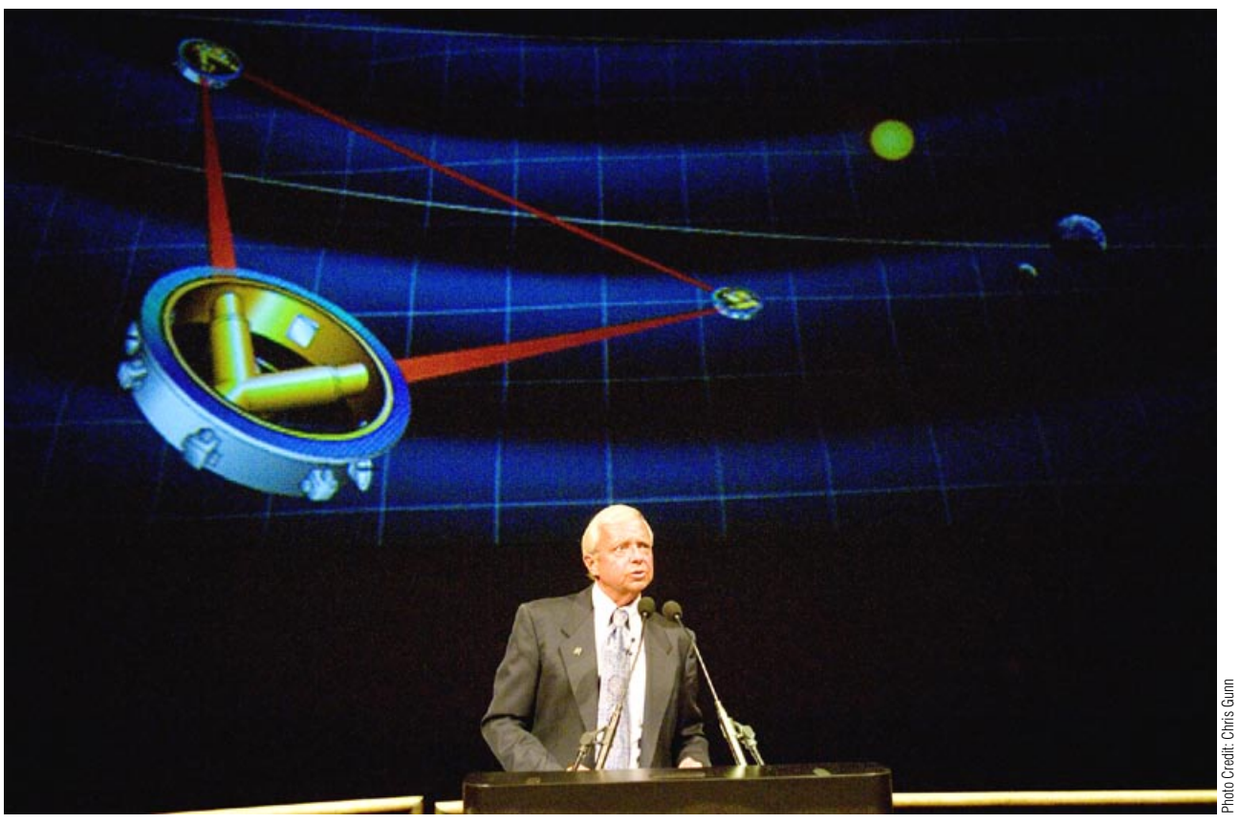

Photo Credit: Chris Gunn

Dr. Weiler discusses the Laser Interferometer Space Antenna (LISA) Mission.

Fire Prevention Week

By Lisa Cutler

Each year one week in October is observed as Fire Prevention Week. The history of Fire Prevention Week reaches back to 1871 when the Great Chicago Fire occurred. The fire killed 300 people and left 100,000 people homeless and damaged 17,000 structures. In 1925 President Calvin Coolidge proclaimed the first National Fire Prevention Week. Since that time Fire Prevention Week has been a time to focus on the importance of reducing the risk of fire and the toll it takes on our society. During Fire Prevention Week, October 10-14, we will post a fire prevention tip each day in Dateline to help raise the level of awareness. Fire prevention is everyone's responsibility at work. Keep your work area orderly and free of clutter. Maintain equipment in good repair. Promptly report any fire hazards so they can be eliminated.

Follow these guidelines for fire prevention in your workplace:

- Maintain electrical equipment to prevent shorting-out and overheating. Watch for worn insulation, frayed cords and other signs of wear or damage. Keep electrical equipment and other machinery free of dirt so it can run freely.
- Do not overload circuits. Watch for signs of overloading such as lights which dim when machinery starts running.
- Store materials safely. Flammable liquids must be stored in properly ventilated areas, away from sources of ignition. Vapors of flammable liquids can travel far from their source. If they encounter a source of ignition such as a spark, the fire will flash back to the original container, causing a serious fire or explosion. Even apparently empty flammable liquid containers still contain the vapors.
- Do not allow scrap and trash to accumulate. They must be removed regularly for disposal or recycling. It is especially important not to allow accumulations of combustible items around fire exits and stairwells.
- Dispose of oily rags properly. They should be placed into approved, covered containers which are emptied regularly.
- Smoke only in designated areas.
- Never interfere with emergency equipment such as sprinklers, fire extinguishers, or fire doors designed to prevent the spread of fires.

For additional Fire Prevention information, visit:
http://www.nfpa.org.

Proposal Opportunities

NASA Research Announcements (NRA)

For more information, please visit https://nspires.nasaprs.com

Research Opportunities in Space and Earth Science (ROSES)

Earth Space Science Fellowship/06
Solicitation: FELLOWSHIP06
Release Date: 2005-10-01
Proposal Due Date: 2006-02-01

Hubble Space Telescope – Cycle 15 Call for Proposals
Release Date: 2005-10-05
Proposal Due Date: 2006-01-27

NASA Astrobiology Institute – Cycle 4
Solicitation: NNH05ZDA001C
Release Date: 2005-07-25
Proposal Due Date: 2005-10-28

Radiation Belt Storm Probes Investigations and Geospace-Related Missions of Opportunity
Solicitation: NNH05ZDA003O
Release Date: 2005-08-23
Proposal Due Date: 2005-11-22

For more information contact the New Opportunities Office
x6-5442

Exploring Diversity Through Art

By Andrea I. Razzaghi and Sharon Garrison

Photo Credit: Larry Gilbert

Employees who stopped by the Building 1 Training Facility on Friday, September 23rd, witnessed one of the classrooms transformed into an elegant art gallery featuring the work of professional artists Ms. Leslie Berns, Ms. Barbara Blanco, Dr. Nicole Cutts and Dr. Barbara Hardaway (shown in above photo). Those who came in and stayed awhile surely enjoyed a rich experience exploring the diversity of the artistic expression on display. The Flight Programs and Projects Directorate Diversity Council offered this art showcase as a unique and pleasurable diversity learning experience.

Those who participated in the lunchtime panel discussion heard the artists share their thoughts on what diversity means to them as expressed through their art. Ms. Berns, who through her work, compels us to contemplate the delicate balance between the natural world and the world of human cultural constructs, propounded the question of why many people easily appreciate the value of biodiversity, yet are skeptical of the value of human diversity. Ms. Blanco discussed the challenges of embarking on an art career and some of the particular challenges minority artists face seeking appreciation for their work beyond the confines of ethnocentric expression. Dr. Cutts uses her art to explore other cultures and actively looks for similarities as well as differences in the symbols used by various cultures. Dr. Hardaway presented the universality of art as the flip side of diversity and shared how her work, which personally reflects her own experience, is embraced by people of many different backgrounds as expressing something from their own personal experiences.

This enlightening exhibition concluded with an Artists Reception where participants immersed themselves in the beautiful art work, mingled with each other and the artists, and enjoyed delectable wine and cheese.

Employee Spotlight

Kevin McCarthy, Goddard's First FEMA Volunteer

Photo Credit: Debora McCallum

The Gulf Coast Calls for Aid and Goddard Responds

Continued from Pg. 4

In his message, Dr. Weiler reported that just days after Hurricane Katrina struck, Goddard scientists flew down to the Gulf Coast to lend assistance to the Federal Emergency Management Agency (FEMA) and the US Geological Survey (USGS) to provide detailed observations of the disaster area. At the request of USGS, in cooperation with FEMA and the Army Corps of Engineers, NASA's Experimental Advanced Airborne Research LIDAR (EAARL) system surveyed the gulf coastline. The EAARL system, carried on a Cessna 310 which is based out of our Wallops Flight Facility, took high-resolution observations that can be used to assess the amount of damage to communities and the environment.

The Department of Homeland Security then sent out an urgent request for volunteers from federal agencies to deploy for 30-day minimum field assignments to work with FEMA in the Gulf Coast area. Worried about getting inundated with inquiries, a point-of-contact (POC) was assigned at each federal agency. Khrista White from the Office of Human Resources volunteered to be Goddard's POC. This is where she met Kevin McCarthy, Goddard's first employee volunteer to deploy to the Gulf Coast.

Kevin McCarthy, a COTR from Code 400, was one of the first people to respond. When asked why he wanted to volunteer Kevin said "I wanted to help. I gave money but that just didn't seem like enough."

Kevin also mentioned that he didn't have the constraints of work and family obligations that prevented some of his co-workers from volunteering, so that also made him an ideal candidate. Kevin left September 26 for Florida for a 3-day training period and then got his volunteer assignment—Baton Rouge, Louisiana—shortly after his training was completed.

Goddard's triple threat response: collecting monetary and non perishable donations, using science and technology to assess damages and mobilizing volunteers is just another example of how the humanitarians of this Center are able to put their considerable skills to work and show how much they care. ■