

## More Visits to Goddard Explorer Schools; Education is the Key

By Dewayne Washington

Photos by Chris Gunn/293



Alison McNally and Al Diaz watch as Sheridan students give demonstration.

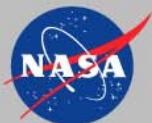
During the month of April, students at Explorer Schools in New York, Connecticut and Massachusetts had the opportunity to hear from NASA Headquarters and Goddard Space Flight Center personnel about current and future space exploration efforts.

The presentations were part of a continuing agency-wide effort that involves every NASA Center Director and members of the NASA astronaut corps making visits to Explorer Schools across the country. The visits give NASA personnel an opportunity to present information to students, teachers, parents and local officials about near-term and long-range NASA activities. The up-close and personal touch provides a unique forum to explain the new exploration initiatives being undertaken by NASA. The visits are also meant to impart to students the importance of education and how they are indeed the next generation of explorers.

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### NASA's Mission:

- \*To understand and protect our home planet
- \*To explore the Universe and search for life
- \*To inspire the next generation of explorers as only NASA can

For further detail of the NASA mission, go to:  
<http://www.nasa.gov/bios/vision.html>

## Safety Alerts

The Center receives information from the Government-Industry Data Exchange Program (GIDEP) concerning product recalls. In an effort to keep employees informed of recalls that may affect you at work and at home, Code 300 will provide alerts or recalls that have been issued by the Consumer Product Safety Commission along with web site links for retrieving further information on the recalls or alerts.

New Federal Web Site for Agency Recalls: <http://www.recalls.gov>

Murray Inc. Announces Recall of Lawn Tractors.  
<http://www.cpsc.gov/cpscpub/prerel/prhtml04/04102.html>

Pacific Cycle Inc. Announces Recall of Mongoose 20-Inch Mountain Bicycles.  
<http://www.cpsc.gov/cpscpub/prerel/prhtml04/04113.html>

Valley Dynamo Announces Recall of Air Hockey Tables  
<http://www.cpsc.gov/cpscpub/prerel/prhtml04/04112.html>

CPSC Warns About Tip-over Hazard with Folding Mobile Tables.  
<http://www.cpsc.gov/cpscpub/prerel/prhtml04/04114.html>

Sauder Woodworking Co. Announce Recall of TV/VCR

Carts that Can Tip Over Easily, After Babys Death.  
<http://www.cpsc.gov/cpscpub/prerel/prhtml04/04115.html>

H&M Announces Recall of Promotional Water Bottles.  
<http://www.cpsc.gov/cpscpub/prerel/prhtml04/04116.html>

Shindaiwa Inc. Announces Recall of Hedge Trimmers.  
<http://www.cpsc.gov/cpscpub/prerel/prhtml04/04121.html>

American Standard Companies Announces Recall of Trane and American Standard Accessory Electric Heaters.  
<http://www.cpsc.gov/cpscpub/prerel/prhtml04/04122.html>

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## Something Bothering You?

By Christina Kominoth

The Employee Assistance Program (EAP) provides assessment, short-term counseling, and referral for GSFC employees and their family members surrounding a variety of personal and workplace issues including relationship, grief and loss, mental health, substance abuse, child/parenting, legal concerns, workplace conflict, change management, and financial issues. The most common reason people see the EAP Counselor is for relationship issues. The Program is CONFIDENTIAL, voluntary and free!

The EAP provides management consultations to supervisors and managers who have concerns about an employee for either a personal or work-related issue. The goal is to assist managers with employee's personal problems before they become personnel problems. In addition, the EAP provides supervisors with suggestions for making a referral to the program.

Additionally, the EAP supports to the organization through sponsorship of annual events such as the Health Fair, the Holiday Program, and the Great American Smokeout. They offer employee orientation trainings, supervisory briefings, as well as health and wellness seminars upon request on such topics as Stress Management, Balancing Work and Family, and Change in the Workplace. They provide critical incident stress debriefings whenever a traumatic event occurs which impacts the workplace. They participate as a member of the NASA Crisis Management Team. They are also a member of the Women's Advisory Committee and have co-sponsored many events and programs including the Domestic Violence Awareness Campaign.

The Goddard Employee Assistance Program (EAP) provided by COPE, Inc. and is located in the Health Unit, (Building 97) in Greenbelt.

Goddard on-site counselors are **Christina Kominoth** and **Carol Shaub**. Christina Kominoth, LCSW-C, CEAP, SAP, is COPE's Marketing Director as well as Employee Assistance Specialist. Christina provides account management, counseling, management consultation, support group facilitation, and employee training services to NASA employees at the Goddard the Central Pension Fund, the John F. Kennedy Center for the Performing Arts (National Symphony Orchestra), and the Washington Home and Hospice of Washington. Christina is n certified by the International Critical Incident Stress Foundation in both Critical Incident Stress Management (CISM) and CISM in the Workplace. She is also a member of the Crisis Management Team for NASA. Christina has been with COPE since 1998, after receiving her degree from the University of Maryland School of Social Work with a specialization in EAP services. She has completed the requirements of the Department of Transportation to provide substance abuse professional services. She is the recipient of several NASA awards including the Contractor Excellence Award and the NASA Public Service Award.

Carol Shaub, M.A., LPC, CEAP is an EA Specialist with COPE. She provides counseling, management consultation and training to the employees of the D.C. government, Raffa and Associates, Zimmerman & Associates as well as various other accounts. Carol joined COPE in January of 1999. Prior to her work with COPE, she interviewed and completed clinical assessments of adolescents entering into a psychiatric

Continued on page 8

# Seeing Earth Through Martian Eyes

By Bill Steigerwald and Michael Starobin

If aliens took a budget tour of our galaxy (19,362 planets in 3 days!) and only had time to visit one person on Earth, what would they think we were like? If they visited your grandmother, they might conclude people were wise and kind, but not very strong (Why do humans put their medicine in bottles they can't open?). If they saw someone's year-old sister, they might think people were curious and full of energy, but not capable of speech (at least not anything that made much sense). If they encountered someone's older brother, they might think all our time and energy is spent on something called "basketball".

Aliens really need to visit more than one person to get a good idea of what we're like. The same applies to us as we explore other planets. That's why NASA is so interested in understanding the Earth and comparing it to Mars and other worlds in our solar system as part of the new Vision for Space Exploration.

If Martians existed, they would be green — with envy of Earth. From space, Earth is a blue-white gem on black velvet, with abundant liquid water. Closer inspection of this gem finds it bursting with life.

About half the size of Earth, Mars is reddish brown, revealing a planet-wide desert beneath wisps of water ice clouds. Its thin atmosphere is frigid, and most of the planet's water is locked in ice or mixed with frozen ground. With no liquid water and no protection from the Sun's ultraviolet radiation due to a thin atmosphere without an ozone layer, the Martian surface is believed to be inhospitable to life as we know it. But who really knows? We are learning of life's limits here on Earth today and there have been many surprises.

On a galactic tour, Mars would be easy to pass by, except a closer look reveals whispers of a lost Earth — features in the deserts, such as those resembling dried-up riverbeds, indicate that Mars was once much warmer and wetter, perhaps because its atmosphere was thicker billions of years ago. Did Mars once have life? The key Martian mystery is how the Martian paradise was lost. What happened to the air and water, and why did Mars go into a deep freeze? Indeed, today we know Mars experiences dramatic climate changes, much more intense than those we know of here on Earth.

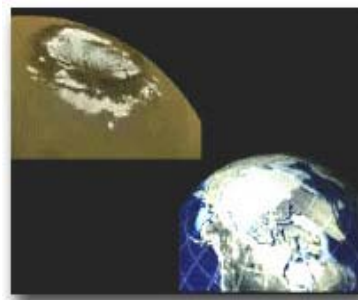
Earth has also gone through dramatic climate changes, as evidence for a series of ice ages indicates. By carefully studying how the climate functions on both worlds, we can understand why some worlds remain havens for life, and others appear to have dried up and frozen over.

A close look at Earth gives clues to the Martian mystery. If aliens visited special dry valleys in Antarctica, they would see cold and dry deserts like those on Mars. If they plunged from space

down to a remarkable region in Antarctica, called the Don Juan Pond, they could visit one of the saltiest, coldest bodies of water on Earth. The pond remains liquid despite temperatures below the normal freezing point of water because of its high salt content. This pond is of particular interest because it represents one possibility for the kinds of extreme conditions where life might exist elsewhere in the solar system: it's chemically stressful due to the high concentrations of salt and minerals and the extreme cold. If life is able to survive there, it might exist in similar places elsewhere.

Evidence for relatively recent volcanic activity on Mars indicates that its interior is still warm from the heat of its formation and from the processes that separate a planetary interior into layers. If this is so, there may be enough heat for liquid water to exist at different depths beneath the Martian surface. On Earth, scientists have discovered bacteria in rock miles deep. If microscopic life ever existed on the Martian surface, it might have retreated below as the planet's surface froze, and might still exist in salty reservoirs (aquifers) deep beneath shifting Martian dunes.

Ice talks. Tiny air bubbles trapped in glaciers and polar caps are pristine samples of ancient atmospheres, and as ice ebbs and flows over the landscape, it writes a record of climate change. Both Earth and Mars have polar caps, and detailed study of these areas will allow us to compare how the climate evolved on these worlds.



Polar caps on Mars and Earth



Mars (left) and Earth (right) to scale

Earth has an invisible shield that protects it from space radiation and the solar wind, a thin, high-speed stream of electrified gas that blows constantly from the Sun. This shield is the Earth's global magnetic field. Mars does not have a large-scale magnetic field like Earth, but

there is evidence, in the form of magnetized Martian rocks, that it had one long ago. We know that the solar wind can erode away an unprotected planet's atmosphere over billions of years, if the atmosphere is not continually replaced by frequent volcanic activity and other photochemical processes. Could this be one reason why the Martian atmosphere is so

## Mars, Earth Comparison (cont'd)

thin today? We need to explore both planets in more detail to be sure.

Earth and Mars had violent births; their own gravity allowed them to grow by pulling in surrounding rubble and asteroids from the still-forming solar system. These asteroids slammed into the surfaces of Earth and Mars, and excavated craters the size of small continents. The Martian deserts of today are pockmarked with craters, scars from billions of years of cosmic collisions.

Some Martian craters reveal a vast number of layers in the Martian crust, thus offering a rare glimpse into the history and structure of the planet's upper layers. In other words, it's a cross section of the planet's skin, and therefore extremely valuable for researchers to discover key aspects about the planet's history of deposition and erosion, processes often profoundly affected by the presence of liquid water.

Layering is often associated with deposition by water here on Earth and the layers within these craters on Mars may provide clues to a time in the Martian past when water-lain sediments filled up such craters and perhaps formed shallow, salty seas.

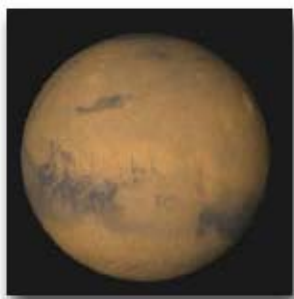


Image of Mars using Viking texture and MOLA topography

But craters all over the planet are important to Mars scientists. The record of impacts found near the poles suggests that there may be a buried icescape covering much of the planet as evidenced by erosion and ejecta patterns that do not seem to behave in ways we would expect from ordinary rock-based planetary crusts.

Since all the worlds in the solar system formed the same way, you would expect to see many impact craters on Earth, but obvious impact craters are rare. This is because Earth is so geologically alive; water erosion, wind erosion, and shifting landscapes from plate tectonics erase craters before they are very old. Only sophisticated techniques, including those used by remote sensing instruments on board NASA satellites, can pick them out. Exploring fresh craters on Earth gives scientists

confidence that their interpretation of impact features on alien worlds is correct.

Is Mars dead, or is it only sleeping? There are tantalizing hints that Mars might have brief returns to the warm and wet condition of its youth in geologically recent times. Maybe

this is the result of occasional volcanic activity that temporarily thickens the atmosphere, or perhaps it is due to the release of subsurface waters from aquifers at times when the Martian climate is more hospitable to liquid water.

If the Martian atmosphere were slightly thicker, perhaps as a consequence of a

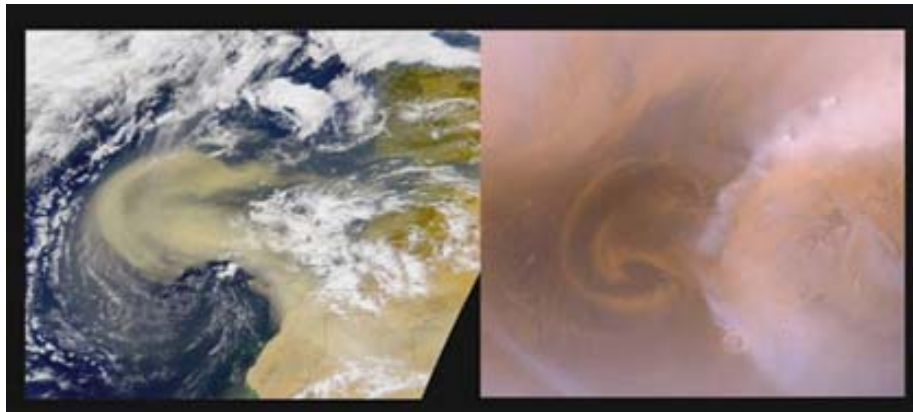
comet impacting the surface and releasing its gases and water vapor, Mars may temporarily warm up enough to allow for liquid water to be stable. The slightly thicker atmosphere would act like a blanket, trapping more of the Sun's heat and allowing frozen Martian water and carbon dioxide to evaporate or sublimate. This will make the atmosphere even denser, which would allow it to become warmer still in a self-reinforcing cycle. Similar cycles probably have occurred due to climate changes caused by the natural variation in the tilt of the Martian axis of rotation.

Imagine a time when the Martian climate allowed rain to fall. Imagine the desert cliffs of Mars, which have known only an icy, thin wind, echoing with soft rains, forming shallow salty seas... perhaps reawakening long dormant habitats. Imagine human explorers on Mars uncovering such past records themselves, ultimately seeking fossil evidence of ancient Martian life, just as the great archeologists of Earth came upon the civilizations of the past.

This is exploration at its most thrilling, understanding other worlds that may have been habitable for life, and it is part of the NASA vision of searching for life in the Universe. However, to make this a reality, we need a detailed understanding of how hospitable planetary environments and climates operate. There is only one example to learn from — our own Earth.

While NASA prepares to deploy a new family of probes around the fourth planet, it's exciting to consider that it already maintains a powerful and diverse fleet around the third planet. NASA's Earth Observing fleet of vehicles constitutes a major milestone in the history of Earth science, facilitating wide-scale and synergistic research endeavors that until the last decade have been impossible to even consider.

For images, movies, and more information, refer to:  
<http://www.gsfc.nasa.gov/2004/0115earthmars.html>



Left: Dust storm off African coast; Right: Dust Storm on Mars

# What is that Round Building?

By Lynn Chandler

Have you ever wondered about the dome-shaped building over by Soil Conservation Road? This rotunda houses the High Capacity Centrifuge, (HCC), which is unique to the Country and the World! This world-class facility was built in the mid 1960s and is still used on a regular basis.

The HCC is a really big machine shaped like an arm that is more than 120 feet long and fills the entire circular building. The rotating arm weighs more than 500,000 pounds and is driven by two 1,250 hp dc motors. With

two powerful motors running at full tilt, the outer edge of the test arm can reach speeds of more than 200 miles per hour, producing a force 30 times Earth's gravity. To imagine what it looks like when working, think of a bridge spinning 30 times each

minute. This fine tuned machine sits on bearings so smooth that just two or three people can push it around the room.

This centrifuge is used to simulate the stress of launch and landing for large spacecraft before they are sent into space and can test payloads in excess of 10,000 lbs. A 7.5 ton capacity crane is used to position the test item on the platform. Some of the spacecraft that have been tested here include, Spartan, Egret, TOPEX, XTE, EUVE, TRMM, HST hardware and the Mars Pathfinder.

This round building has always peaked the curiosity of employees as well as visitors. This world-class facility has been a stop along center tours for many years and never loses its ability to wow people. Some of the visitors include: President Ronald Regan, Vice President Al Gore, Senators Barbara Milkulski and Steny Hoyer, the former Prime Minister



Photos by Chris Gunn/293

High capacity centrifuge



Building 15 rotunda

of Great Britain, Margaret Thatcher; Former Secretary of Defense, Caspar Weinberger; and John Glenn.

In 2001, NASA joined forces with the National Highway Traffic Safety Administration to, literally, take vehicles about for a spin. The NHSTA wanted new methods for testing vehicle rollover resistance, and Goddard's HCC was exactly what was needed to spin up some

unique and original vehicle testing. The vehicles were spun, using the HCC on a test platform, until inertia and centrifugal force caused them to tip. For images and a movie of this activity as well as more information, visit <http://www.gsfc.nasa.gov/topstory/2003/0212suv.html#tests>

Carmine Mattiello, Head of Structural Dynamics Test Engineering has been overseeing this facility since 1994. He is also responsible for the vibration, acoustics and mass properties testing facilities. "It's a lot of fun and a very rewarding experience to be involved in the environmental qualification testing of so many spacecraft and instruments, and to work with such dedicated people," said Carmine Mattiello.

This facility is part of Code 549 the Environmental Test Engineering and Integration Branch.

# What Can the Information Services Division Do for You?

by Tara Holby

The Information Services Division (ISD), Code 290, provides information technology, communications and information services to GSFC and the Agency. This division strives to be the provider of choice of a responsive, reliable, robust information infrastructure that enables Goddard's mission. From implementation support for WebTADS, to the management of the Center Network Environment (CNE) and the ODIN program, ISD manages many services that touch the entire Center.

The Information Services Division also prefers to lead by example. As one of the first GSFC organizations to transfer to the new NASA standard web site design, ISD took the first step to uncover and address any problems. By participating in Agencywide efforts and partnering with other Centers, ISD hopes to encourage the One NASA vision and promote understanding of the unique requirements of GSFC. "We are promoting the One NASA vision," says Division Chief **Kelly Carter**, Code 290, "but keeping the goals, objectives, and requirements of our users in mind."

This is a customer focused organization. Carter guided the formation of a Customer Service Steering Committee to bring the diverse elements of the Division together in support of a single goal; understand and serve the customer better. This group has facilitated several customer feedback sessions to accomplish that goal. The customer focus has extended to the employees (civil servant and contractor) as well. Information Services Division managers encourage their employees to communicate what they believe the customer needs and wants, and express their feelings directly to Division management using the Division Chief Dialogue. The purpose of the Division Chief Dialogue tool is to encourage greater communication between Code 290 employees and Division management to better serve the customer.

Outreach, between customers and other agencies, is key for the Information Services Division. The ISD works with many

different organizations such as NSA and DOE, to guarantee GSFC is consistent with the state of the industry and other government agencies. Furthermore, the ISD acts as a champion for GSFC's unique requirements to the Agency to ensure future plans allow GSFC to continue to meet its mission. Carter explains that the ISD, "advocates to the agency for a position that would satisfy the Agency's goals but takes into account the Center's unique environment."

The Information Services Division will be hosting a Technology Exposition on Thursday, May 27, from 10:00 a.m. to 2:00 p.m. in the Bldg. 8 Aud. The Tech. Expo. will showcase new tools and

technologies that are currently on the market, as well as future technologies. In addition, the Tech. Expo. will also showcase the technologies offered by the ISD, such as the new ODIN tablet computer. There will be live demonstrations and hands-on interaction available. Moreover, the National Federation of the Blind will showcase assistive

Photos by Pat Izzo/Code 293



Deputy Director, Bill Townsend, Center Director, Al Diaz and Code 290 Division Chief, Kelly Carter at 2003 Tech. Expo.



2003 Technology Exposition Showcase

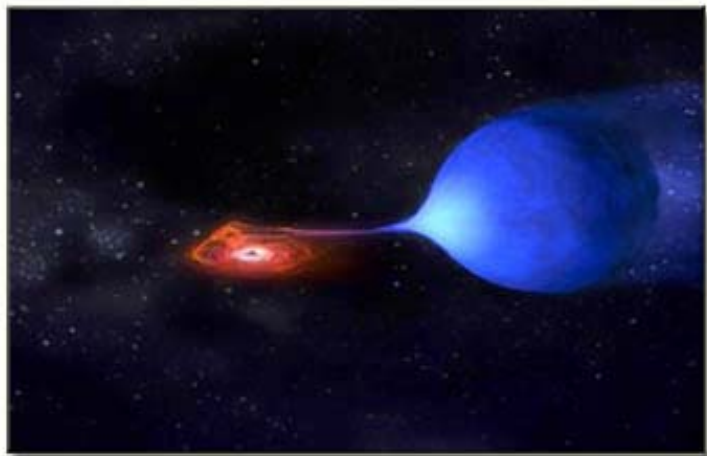
technology for the vision impaired.

The Information Services Division, Code 290, will continue to play an integral role for all the communications across the center, from telephone services to the Goddard Library to digital graphic activities. The services that the ISD team provides are essential to the science and engineering community. The job of the ISD is to implement the most dependable systems so they can be as transparent as possible to the user.

For more information about Code 290, visit: <http://code290.gsfc.nasa.gov> ■

# Star Bites the Hand That Feeds It

By Bill Steigerwald and Chris Wanjek



Artist concept of neutron star pulling gas from companion star

In a titanic display of cosmic incivility, a dead star blasted away a disk of gas that was feeding it fuel, which allowed it to keep shining.

Maybe it wasn't rude on purpose, because the star burped, and it was a big one: a nuclear explosion that released more energy in three hours than our Sun does in 100 years.

These rare explosions sometimes happen on the surface of strange stars like this one, called neutron stars. Astronomers are interested in getting a close-up look at neutron stars because they are cosmic laboratories for extreme physics. Scientists smash atoms in miles-long machines to pry open the secrets of the Universe. However, on a neutron star, matter cracks under conditions that can't be created on Earth: gravity 300,000 times greater than Earth's, magnetic fields a trillion times stronger than on the Sun, and searing radiation.

A neutron star is the dense, core remains of an exploded star originally at least eight times more massive than the Sun. The neutron star contains about a sun's worth of mass packed in a sphere only about 10 miles (16 km) across. In binary (double) star systems, gas

from the companion star can funnel towards the neutron star, attracted by the neutron star's strong gravity. This is the process that was "feeding" the neutron star.

The explosion on the neutron star "4U 1820-30," about 25,000 light years from Earth, illuminated the region and allowed the scientists to spy on details never before revealed. They could see details as fine as the neutron star's accretion disk, a ring of gas swirling around and flowing onto the neutron star, as the disk buckled from the explosion and then slowly recovered its original form after approximately 1,000 seconds. The explosion was captured second-by-second in movie-like fashion through a process called spectroscopy with NASA's Rossi X-ray Timing Explorer spacecraft. (One light year is the distance light travels in a year, almost 6 trillion miles, or approximately 9.5 trillion km.)

Dr. David Ballantyne of the Canadian Institute for Theoretical Astrophysics at the University of Toronto and **Dr. Tod Strohmayer** of Goddard Space Flight Center, presented this result in *Astrophysical Journal Letters*. The observation provides new insight into the flow of a neutron star's (and perhaps a black hole's) accretion disk, which usually appears far too minute to resolve with even the most powerful telescopes.

"This is the first time we have been able to watch the inner regions of an accretion disk, in this case literally a few miles

from the neutron star's surface, change its structure in real-time," said Ballantyne. "Accretion disks are known to flow around many objects in the Universe, from newly forming stars to the giant black holes in distant quasars. Details of how such a disk flows could only be inferred up to now."

As gas crashes down on the neutron star it builds up a 10- to 100-meter (yard) layer of material comprised mostly of helium. The intense

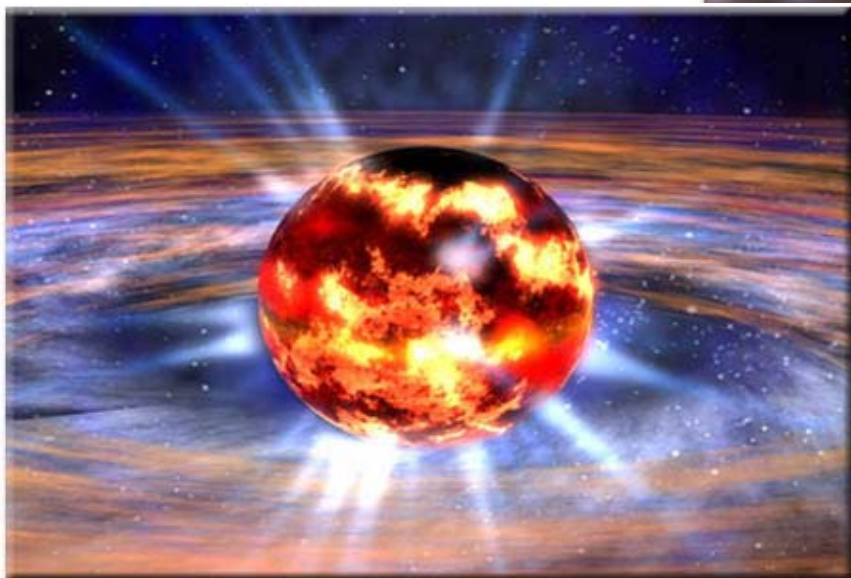
gravity of the neutron star compresses the gas as it builds up on the surface. Eventually, pressure and heat in the gas become so high that the gas detonates in a nuclear fusion

Continued on page 8



Artist concept of neutron star beginning to distort gas disk

## Star Explosion (cont'd)



Artist concept of neutron star close-up before explosion



Artist concept of neutron explosion

explosion. The fusion of the helium into carbon and other heavier elements releases enormous energy and powers a strong burst of X-ray light, far more energetic than visible light. Such bursts can occur several times a day on a neutron star and last for about 10 seconds.

What Ballantyne and Strohmayer observed on 4U 1820-30 was a “superburst.” These are much more rare than ordinary, helium-powered bursts and release a thousand times more energy. Scientists say these superbursts are caused by a buildup of nuclear ash in the form of carbon from the helium fusion. Current thinking suggests that it takes several years for the carbon ash to build up to such an extent that it begins to fuse.

The superburst was so bright and long that it acted like a spotlight beamed from the neutron star surface onto the innermost region of the accretion disk. The X-ray light from the burst illuminated iron atoms in the accretion disk, a process called fluorescence. The Rossi Explorer captured the characteristic signature of the iron fluorescence — that is, its spectrum. This, in turn, provided information about the iron’s temperature, velocity, and location around the neutron star.

“The Rossi Explorer can get a good measurement of the fluorescence spectrum of the iron atoms every few seconds,” Strohmayer said. “Adding up all this information, we get a picture of how this accretion disk is being deformed by the thermonuclear blast. This is the best look we can hope to get, because the resolution needed to actually see this action as an image, instead of spectra, would be a billion times greater than what the Hubble Space Telescope offers.”

The scientists said the bursting neutron stars serve as a laboratory to study accretion disks, which are seen (but in less detail) throughout the Universe around nearby stellar black holes and exceedingly distant quasar galaxies. Stellar black holes with accretion disks do not produce X-ray bursts.

For additional information and animation, refer to:  
<http://www.gsfc.nasa.gov/topstory/2004/0220stardisk.html> ■

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## Is Something Bothering You? (cont'd)

residential treatment center. She has also worked at Hospice Care of DC as a Bereavement Intern, providing individual and group grief counseling, and assisted in community education and volunteer training. Carol holds a Master’s degree from George Washington University. She completed post-graduate work at Johns Hopkins University. Prior to her graduate work, she worked for 3 years at a domestic violence shelter, providing crisis intervention, counseling, medical and legal advocacy to victims of sexual assault, domestic violence and incest. Carol also trained support volunteers and educated the community about domestic violence. Carol has advanced training as well as direct experience with Critical Incident Stress Debriefings. She is a Licensed Professional Counselor as well as a Certified Employee Assistance Professional.

On-site counselors are available Monday – Friday from 7:30 am – 4:30 pm and can be reached by calling (301)286-4600 (On-site number) or (202)628-5100 (COPE Office). Phones are answered by a masters level counselor 24 hours/day, 7 days/week. ■



# 2004 Goddard Honor Awards Recipients

The following Honor Award recipients were acknowledged in the below categories on Wednesday, April 28, 2004. The award ceremony was followed with a luncheon at the Recreation Center. For more information on the Honor Awards visit: <http://ohr.gsfc.nasa.gov/awards/gsfcanual.htm>

## Award of Merit

227 Paul Thompson  
290 Janet Ormes  
552 Daniel McHugh  
562 Henning Leidecker  
810 William Lau

## Earth Science Achievement

926 Richard Ray

## Engineering Achievement

550 Richard Katz  
552 John Panek

## Exceptional Achievement Individual

240 Lois Otterson  
240 William Braun  
250 Shari Silbert  
250 Peter Lauren  
290 Teaundre Proctor  
415 Joseph LeBlanc  
415 Clelia Walker  
416 Van Johnson  
441 Tim Jacintho  
441 Craig Bickford  
480 Roberto Aleman  
492 Arthur Whipple  
492 Erik Andrews  
500 Edward Gaddy  
501 Darlene Downs  
502 Steve Bundick  
549 Kathleen Jenkins  
551 Charles Fleetwood  
555 Terence Doiron  
561 Ray Ladbury  
565 James Caldwell  
565 Steven Graham  
567 Bernard Edwards  
568 Ray Jungo  
569 David Suiter  
569 Robert Wessels  
591 Scott Hull  
591 Richard Burns  
592 Gary Mosier

595 Steve Andrews  
912 Stephen Palm  
972 George Hayne

## Exceptional Achievement Group

150 Goddard Full Cost Training Team  
210 HQ Procurement Office Management Team  
405 WebTADS Implementation Team  
441 HST WFC3 Flight Software Development & Test Team  
443 JWST Microshutter Technology Development Team  
450 LPT CANDOS Team  
556 Mercury Laser Altimeter (MLA) Instrument Team  
556 XRS Instrument Recovery Team  
556 XRS Test Dewar Recovery Team

## Outstanding Leadership

200 Caroline Massey  
200 William Phillips  
562 Darryl Lakins  
564 Michael Johnson  
568 Nancy Stafford  
586 Mike Seablom  
592 Jennifer Bracken  
593 Dennis Andrucyk  
900 Wayne Esaias

## Outstanding Management Individual

151 Gale Fleming  
201 Cheri Carroll  
210 Tammy Seidel  
297 Bernard Tomardy  
305 Cynthia Fryer  
405 Diane Bittner  
556 Arlin Bartels  
584 John Donohue  
595 Thomas Stengle

## Safety Award of Distinction Group

441 Hurricane Isabelle Preparedness Team

## Space Science Achievement

662 Keith Gendreau  
685 Dr. Gary Hinshaw

# Employee Spotlight

Leslee Cork

By Tomeika Blackwell



Goddard employees exemplify dedication and hard work as illustrated by Leslee Cork's tenacity towards her job at Goddard and her ability to attend college full-time simultaneously. She is an Administrative Assistant in the Public Affairs Office (PAO). Cork entered Goddard through the Cooperative Office Experience Program (COE), a program that partners up with high schools to recruit and retain students to the administrative side of government.

Since the fall of 2000, Cork has been responsible for and involved in many public affairs operations. Her duties include: disseminating important information about Goddard to the Maryland community; coordinating and composing outreach material for Goddard employees; setting up display boards to relay important information about NASA; and helping to facilitate special events and guest operations; ensuring all the logistics are executed, in addition to aiding to the smooth operations of the PAO Office.

One of the most popular events Cork has help coordinate is the National Air and Space Museum (NASM). This is a yearly event to showcase the achievements in Earth and Space Science. "I was mostly in charge compiling an invite list of VIPs and making sure all RSVP's were noted, issuing badges, and resolving any conflicts that may arise. "My job is very important. I have to make sure every i is dotted and every t is crossed," says Cork.

"The best part about my job is knowing that the customer was satisfied. Knowing that people enjoyed themselves at an event makes me feel my job is appreciated and meaningful. When I receive praises from employees regarding outreach material taken to their child's classroom, it truly solidifies my job." adds Cork.

Her talent and capabilities also extend outside of Goddard. Cork's other interests are in singing and modeling. "I have been singing since I was a little girl in the youth choir at church," replied Cork. "It is my niche." She is also active in modeling endeavors. This past year Cork was showcased in Howard University's Fashion Show where she modeled up-and-coming designers clothes as well as established designers' fashions. Her notoriety does not stop here. She was involved in the annual Lifestyle Expo and the Golden Scissors Award hair show.



Cork poses for Black Hair Magazine



Leslee Cork says, "administrative assistants are a very important component to offices."

In addition, Cork auditioned for the first season of American Idol and successfully made it to the second round in New York. However, nervousness overcame her and she completely forgot the words to the song and was eliminated. Cork says she now, "laughs and views the auditions as a learning experience and a great opportunity; one that many people never get the chance to experience."

She was also featured in the Black Hair Magazine for the third time in a row for being one of the top contenders in the 2003 Showcase Stylist Talent. "I enjoy singing and modeling because it allows me to be more creative and artistic." says Cork.

When asked, "What is one important thing you would like for readers to know about you or your job?" She responded, "Don't look at my outward appearance and assume that I am not knowledgeable about my job. Administrative assistants are a very important component to offices to ensure that everything is carried out effectively and efficiently. We are the foundation, the solid rock of offices."

Cork was born and raised in Bladensburg, Maryland, but resides in the neighboring town of Riverdale. She is the only girl out of two boys. Cork graduated from

Bladensburg High School where she flourished in math and graduated with honors.

Cork will receive her associate degree this year in general studies. She then would like to attend the University of Maryland University College in College Park, Maryland, a college for young adults, to obtain a degree in speech communications. "I would like to pursue a degree in speech communications because it would allow me the ability to be more articulate, creative, expand my vocabulary, and allow me to express myself," adds Cork. ■

# Severe Weather Season is Here In Maryland-DC-Virginia

By Rob Gutro, Team Leader, Earth Science News and Meteorologist  
 Edited by: Bill Patzert, NASA's Jet Propulsion Lab

April marked the beginning of severe weather season here in the Baltimore-Washington area. The severe weather season for us is a long one, as thunderstorms rumble through the summer and sometimes into the early fall. Added danger comes from hurricanes; their season begins June 1<sup>st</sup> and ends November 30<sup>th</sup>.

## Tools for Watching Severe Weather

The National Weather Service (NWS), under the National Oceanic and Atmospheric Administration (NOAA), issues forecasts, and watches and warnings for tornadoes, flash floods, non-precipitation events (such as high wind warnings), severe thunderstorms, lightning danger and flooding. NWS uses a variety of tools to reach the public with these warnings including NOAA weather radio and the Internet.

NOAA weather radio provides up-to-the-minute weather public updates, including weather warnings. Across the U.S., NOAA Weather Radio broadcasts from over 400 FM transmitters on seven frequencies in the VHF band, ranging from 162.400 to 162.550 megahertz (MHz), heard on weather radios. You can purchase a portable weather radio at any electronics store, or even hear it broadcast on-line at the National Weather Service web site.

## Tornadoes

Tornadoes are violently rotating columns of air, spawned from severe thunderstorms. Tornadoes can be small and rope-like or more than a mile wide, with winds that can reach between 200 and 300 mph. Some tornadoes are not visible. However, they become visible from the dirt and debris they pick up.

## Tornadoes Come in Colors

Various reports over time have noted that tornadoes were black from picking up fertile soil, red from clay soils, brown from dirt, and even white when one twister tracked over a snow covered field.

According to the National Weather Service, most tornadoes move from southwest to northeast, or west to east. Some tornadoes have changed direction amid path, or even backtracked.

The Fujita Tornado scale ranks tornadoes in terms of their wind speed and damage they can cause. The lower end of the scale is and "F0" which would cause light damage, and the high end is an "F5" in which the damage would be "incredible."

The 2002 LaPlata Tornado's Path



The twister's path is clear in this satellite image acquired on May 1, 2002 by NASA's EO-1 satellite. LaPlata, MD is situated toward the lefthand side of this scene and the twister's swath is the bright stripe passing through the town and running eastward 6 miles toward Patuxent River beyond the righthand side of the image.

## Tornado Hits La Plata, Maryland in 2002

We're not without tornadoes here in Maryland. On April 28<sup>th</sup>, 2002, a number of severe thunderstorms swept through the mid-Atlantic states bringing high winds, hailstones, and heavy rains to many areas. The intense storms spawned at least two tornadoes, one of which was classified as a very powerful F4 tornado. It touched down in southern Maryland and ripped through the town of La Plata, destroying most of the historic downtown area. The twister is the strongest ever recorded to hit the state and flattened everything in its path along a 24-mile path running west to east through the state. Goddard employees will also remember a tornado that touched down on the campus of the University of Maryland in 2002, killed two

students, uprooted trees, and caused damage to everything in its path.

## Tornado safety

A tornado warning means a tornado has either been spotted on the ground or on Doppler radar get into the bottom floor or basement of a structure and away from windows. The NWS recommends getting under some kind of sturdy protection (heavy table or work bench), or cover yourself with a mattress or sleeping bag. If there is no basement, get into an interior and small room, preferably a bathroom, or under a stairway. A

Photo: Lawrence Ong, NASA/GSFC

## Severe Weather (cont'd)

bath tub may offer some protection. Regardless, you should cover yourself with a mattress or blankets.

In buildings, again, stay away from windows, go to basements or small rooms in the center of the buildings on the lowest floor, and stay off of elevators. For those in trailers on campus, evacuate the trailers and immediately seek shelter in a building. Being in vehicles is extremely dangerous in a tornado. If the tornado is visible, far away, and the traffic is light, you may be able to drive out of its path by moving at right angles to the tornado. Otherwise, park the car as quickly and safely as possible — out of the traffic lanes.

If you're caught outside, lie flat and face-down on low ground, protecting the back of your head with your arms. Get as far away from trees and cars as you can; they may be blown onto you in a tornado.

### Lightning Kills

On average, 73 people are killed by lightning annually in the United States. In 2003, 44 people died from lightning strikes, and that's more than the annual number of people killed by tornadoes or hurricanes. Many more are struck but survive. However, they often report a variety of long-term, debilitating symptoms, including attention deficits, sleep disorders, fatigue, weakness, muscle spasms, memory loss, numbness, dizziness, joint stiffness, irritability, depression, and are unable to sit still for long periods of time.

Over the years in the Baltimore-Washington area, several people have been struck by lightning, including children playing outdoor sports, and golfers. When a thunderstorm nears, seek shelter immediately. Bolts of lightning have been known to travel from more than a mile away and strike a victim. Also, do not seek shelter under trees. Lightning does seek the tallest conductor, and the bolt will "fan out" and electrify anything around the tree if struck.

It is also important to stay out of swimming pools and off of golf courses, the telephone, and computer, and not use water faucets, as lightning can travel through water, plumbing and electrical wires. Lightning has killed people on the phone and in the shower.

### Flooding – Weather's Biggest Killer

According to the NWS, floods kill more people each year than hurricanes, tornadoes, wind storms and lightning. During the 1980s, floods killed about 110 people annually on average. Most of the deaths during flooding conditions occur when drivers attempt to cross flooded roadways. Fresh water moving at 4 mph, which is a brisk walking pace, has a force of about 66 pounds per square foot on any surface. That's enough to move a vehicle and if you double that to 8mph, the force is around 264 pounds per square foot! Also, cars begin to float when the water around them is less than 2 feet deep.

### Hurricanes

Hurricanes are cyclones or areas of low pressure that have tropical characteristics and go through several life stages. They begin in the tropics as tropical depressions (with rotating winds less than 38 mph), and fueled by warm waters, they build into tropical storms (with rotating winds between 39-73 mph), and can further intensify into hurricanes (rotating winds from 74 mph to more than 155 mph). The Saffir-Simpson Scale ranks hurricanes by wind speed, storm surge, pressure and damage potential, ranging from a "Category 1" hurricane with winds between 74-95 mph to a catastrophic "Category 5" hurricane with winds over 155 mph.

According to NOAA's National Hurricane Center the entity that forecasts and monitors hurricanes, each year, an average of ten tropical storms develop over the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico. Many of these remain over the ocean and never impact the U.S. coastline. Six of these storms become hurricanes each year. In an average 3-year period, roughly five hurricanes strike the US coastline, killing approximately 50 to 100

people anywhere from Texas to Maine. Of these, two are typically "major" or "intense" hurricanes (a category 3 or higher storm on the Saffir-Simpson Hurricane Scale).

Hurricane hazards come in many forms: storm surge, high winds, tornadoes, and flooding.

Prior to World War two, hurricanes did not have names. During the war times, they were given names such as "Alpha, Beta, and Charlie." During the 1950s, they were assigned women's names. By 1979 a six year rotating list of Atlantic

Lightning Strikes the Launchpad Before the Launch of STS-8



Photo: NASA MSFC, KSC, JSC

An electrical storm created a tapestry of light in the skies near launch Complex 39A at Kennedy Space Center, Florida prior to launch of the Challenger. Lightning is the number two weather killer in the U.S. Lightning is the number one weather killer in Florida.

## Severe Weather (cont'd)

storm names was adopted, alternating between male and female hurricane names. Names are retired by the World Meteorological Organization when hurricanes result in substantial damage or death or for other special circumstances. Some famous "retired" names include Bob in 1991, Andrew from 1992, Fran in 1996.

Last September's Isabel was a tropical storm when it reached the Chesapeake Bay, Washington, DC and Baltimore and the damages are still being repaired more than 6 months later, with costs in the millions. This year, National Hurricane Preparedness week is May 16- 22, 2004.

### What Watches and Warnings Mean

The National Weather Service issues "watches" when conditions are favorable for severe thunderstorms, tornadoes, or floods to occur. "Warnings" are issued when a severe thunderstorm is happening, a tornado has touched down, or an area is flooding.

Being prepared and knowing the weather before you go outside will always be a surefire way to be safe. Use the Internet, listen to the radio, watch television, be prepared and be safe.

### WEBSITES TO LEARN ABOUT SEVERE WEATHER AND SAFETY:

For up-to-the-minute Weather Radar for the Baltimore-Washington, DC area:

<http://www.erh.noaa.gov/radar/loop/DS.p19r0/si.klw.shtml>

For up-to-the-minute forecasts from the NWS:

<http://www.crh.noaa.gov/forecasts/MDZ013.php?warncounty=MDC033&city=Greenbelt>

Severe Weather Watches and Warnings in the USA, please visit:

<http://iwin.nws.noaa.gov/iwin/nationalwarnings.html>

NOAA weather radio:<http://www.crh.noaa.gov/pah/nwr/radio.shtml>

Red Cross Web Site on Severe Weather Season Preparedness:

[http://chapters.redcross.org/ks/wichita/preparing\\_for\\_disaster.html](http://chapters.redcross.org/ks/wichita/preparing_for_disaster.html)

NOAA Storm Prediction Center:

<http://www.spc.noaa.gov/>

The National Hurricane Center:

<http://www.nhc.noaa.gov>

To learn more about Tornadoes and Tornado Safety:

<http://www.spc.noaa.gov/faq/tornado/> ■

## Explorer Schools Visit (cont'd)



Photos by Chris Gunn/293

(l to r) Al Diaz, astronaut Dan Barry and Sheridan School principal Thomas McCarthy talk with students.

Michael O'Brien, assistant administrator, NASA Office of External Relations spoke to the students at Central Park Middle School in Schenectady, N.Y., on April 6. Goddard was represented when the Center Director carried the message to the next generation at Sheridan Communications and Technology Middle School in New Haven, Conn., on April 8. On April 14, John Campbell of Wallops Flight Facility visited the students at Matthew Kuss Middle School, Fall River, Mass.



The community came together to proudly display that they are one of only 50 NASA Explorer Schools.

In all school events, NASA personnel emphasized to the students that the beginning of the 21<sup>st</sup> century is an exciting time for space travel. They emphasized that the United States is in the midst of a great era of exploration not unlike the time of the Lewis and Clark expedition that ventured to uncharted territory of the American west 200 years ago.

The students were also made aware that they are living in a time when there will always be men and women living and working in space.

The NASA presenters also stressed that being successful in school is the best path to a future that could be filled with great adventures and wonderful discoveries in whatever career fields the students pursue. ■

# Baltimore Students Get Inspiration from Goddard Engineers

By Trusilla Steele



Engineering student John Banzhaf (left) and Dr. James Shiue were amongst the Goddard panelist reviewing the Perry Hall Inventeam's Buoy.

Students from Baltimore's Perry Hall High School visited Goddard for the first time to receive critiques on their water testing buoy for the Chesapeake Bay. The students from Perry Hall had been constructing the buoy since the start of the school year.

The fifteen students

presented on their buoy to collect advice from NASA/GSFC engineers on the design and functionality. During this year's spring and summer months, this device will test the Bay's temperature, conductivity and dissolved oxygen which will assist with determining how algae bloom affects the Bay.

This project is being conducted through the Lemelson-MIT (Massachusetts Institute of Technology) InvenTeams Grant; national grants initiative program that provides a unique opportunity for high school students to gain hands-on experiences in the exciting and rewarding world of invention.

The Perry Hall Inventeam began their presentation by introducing themselves and providing some background on their future aspirations, all of which included attending college to pursue careers in science, technology, engineering or mathematics. In small groups, with excellent poise and confidence, the students presented on their water buoy project, disclosing information of beginning hypotheses that turned into theories which eventually evolved into reality for the final project. Although they presented in small groups, each student spoke of their responsibilities and explicitly gave details on an instrument, product or process that brought them to their final creation.

As the students spoke of their efforts, they unrelentingly displayed exceptional team playing qualities referring to other classmates, as the panelist of Goddard engineers interrupted to ask questions and to give useful suggestions. Members of the panel included **Dr. James Shiue** from the Microwave Sensor Branch and from the the Mechanical and Electrical Systems Centers, **John**



Perry Hall students from the structure team explains the architect of the buoy and the structural issues they encountered.

**Banzhaf, Hanson Nguyen, Thomas Yi, Carlton Peters, Kenny Harris, Joe Miko, Pat Kilroy and Jack Shue**, Goddard lead for the Perry Hall InvenTeam project.

The full participation and detailed recommendations given by all the engineers was an indication that the engineers were intrigued and enthusiastic about providing their knowledge. This was also observed by **Rick Obenschain**, Applied Engineering and Technology director when he welcomed the Perry Hall students and said the "engineers on the panel are energized by participating on such projects."

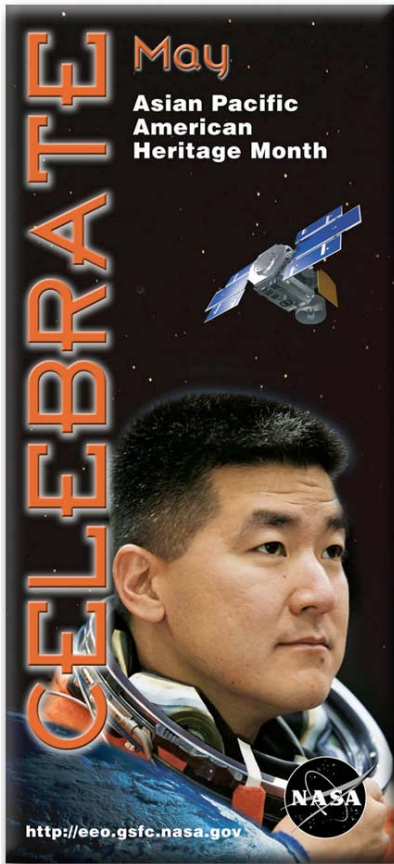
Upon completion of their presentation, the engineers reiterated their recommendations and expressed how pleased they were of the students accomplishments on developing the buoy. NASA engineers participating in such outreach efforts are clearly a way to "inspire and motivate students to pursue careers in science, technology, engineering, and mathematics." In

return, the students gave the Goddard engineers a thermo mug as a token of appreciation for providing guidance and support of "shaping and sharing the experience of exploration and discovery."

For more information on the Lemelson-MIT Program, visit: <http://web.mit.edu/invent/> ■



Students listen to engineer panelist Kenny Harris as he questions the stability of the buoy during high winds.



# Asian Pacific American Heritage Celebrations-To Recognize Freedom for All During May

By Dewayne Washington

Goddard community members will have the opportunity, during the month of May, to join in celebrating Asian Pacific American Heritage Month. The 2004 Asian Pacific American (APA) Heritage Month theme is "Freedom For All. A Nation We Call Our Own."

"During May, we recognize and honor the contributions, rich cultures and diverse histories of Asian Pacific Americans," said **Gerald Tiqui**, Asian Pacific

American Program Manager. The month is planned with programs and celebrations that are held throughout America to honor and recognize Asian Pacific Americans who have made outstanding contributions to this country. These contributions include participation and achievements in science and engineering.

"We continue to embrace the values of this Nation and have demonstrated pride in our heritage, and the willingness to work hard to achieve goals," said Tiqui. "We like to bring greater awareness towards and appreciation for the issues that Asian Pacific Americans deal with," Tiqui added. His responsibilities include working closely with members of the Goddard Asian Pacific American community to present issues of concern to Goddard's senior management.

Many other federal departments and agencies will also host official observances during the month of May. Such occasions will feature speakers, cultural performances, traditional foods, and more. Across the nation, local Asian Pacific American organizations host their own events to celebrate the month.

Asian Pacific American Heritage Month was created in 1992; fifteen years after Congressman Frank Horton and Norman Mineta introduced the House Resolution calling for the establishment of Pacific American Heritage Week. In 1990 President George Bush signed an extension converting the

week long celebration into a month. Public Law 102-450 approved October 23, 1992, designated May of each year Asian Pacific American Heritage Month. The final bill (H.R. 5572) was passed by the United States Congress and was signed into law by President George Bush.

According to the 2003 Proclamation signed by President George W. Bush, people from all cultures have traveled to our Nation seeking the promise of freedom, opportunity, and justice. As an integral part of our society, Americans of Asian and Pacific heritage share in the pursuit of this American Dream.

"America is strengthened by the rich cultural diversity of our people, and we are blessed to be a Nation that welcomes individuals of all races, religions, and cultural backgrounds," commented President Bush. "The values and traditions of the Asian Pacific American community – love of family, entrepreneurship, excellence in education, and community service – have strengthened us as a Nation. During Asian Pacific American Heritage Month, we celebrate the contributions of these talented and hard-working citizens and recognize their rich legacy of ingenuity, perseverance, and achievement," said the President.

Asian Pacific Americans are also helping to shape America's future. As entrepreneurs, artists, educators, public servants, scientists, and explorers, they challenge the minds of our next generation, expand commerce and innovation, probe the frontiers of space, and search for cures for the world's diseases. Our children are also inspired by the contributions and sacrifices of dedicated individuals such as inventor An Wang, experimental physicist Chien-Shiung Wu, Challenger astronaut Ellison Onizuka, Columbia astronaut Kalpana Chawla, and sculptor Isamu Noguchi. ■

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Please join the Advisory Committee for Asian Pacific American Employees (ACAPAE) of GSFC at a "Luncheon to Celebrate the Asian Pacific American (APA) Heritage Month" on **Wednesday, May 5** at 11:30. The Keynote Speaker will be Gwendolyn Young, Associate Director for Management at NASA Dryden Flight Research Center. Please purchase your ticket(s) early as seating is limited. For more information, please contact a ACAPAE to purchase your ticket(s) and to receive additional information. Please note, there will be no tickets sold at the door.

# Recent Changes at Goddard's OHR Designed to Bring Out Your Best

By Dewayne Washington



Tom Paprocki, Office of Human Resources acting director

In an effort to create and sustain Goddard's greatest asset, the employee, the Office of Human Resources (OHR) has been strategizing to become a mission driven/customer involved organization. The goal is the creation of an inclusive community that brings together people with talent and knowledge to support the Center's vision, mission and goals.

Under the leadership of **Tom Paprocki**, Acting Director of OHR, the HR community has been working to assess the needs of the

directorates as well as Goddard. The goal is to change OHR participation throughout the Center.

This move, according to Paprocki, has a Center and Agency focus. There is a move at all centers to better understand the culture and make necessary changes within the HR community as part of the One-OHR initiative throughout NASA. "We looked internally and realized that we needed to move some of our people, when appropriate, out of building one to be able to sit with their customer on a daily basis," said Paprocki. The solution for Goddard was the creation of a Human Capital Consulting (HCC) Model.

The change allows OHR to target support to the customer; better understand the customer's business; and play a key role in the responsibility

of an organization's business mission. "This allows us to move to less of a transactional focus to more of a consultant one to meet the needs of that particular organization," said Paprocki. Each Directorate has identified someone at the directorate-level, referred to as a Human Capital Representative, to serve as a focal point to ensure HR related issues are communicated. OHR has established HCC teams. Each team consists of a Human Capital Liaison who resides in the directorate. The liaison serves as an integrator and broker of HR knowledge and practices that may be used in a new way and seeks opportunities to proactively include HR in the business of the organization. In addition, each directorate-focused HCC team includes a discipline expert in the areas of Strategic Competency (Workforce Planning and Analysis); Learning Culture (Training), Performance Culture (Awards and Performance Planning); and Leadership and Organization Development. The teams meet regularly and work collaboratively with the entire HR community across the various functional areas. HCC teams have already been placed within Codes 400, 500, 600 and 900. Plans are underway to eventually cover the remaining organizations at Goddard.

With these changes Paprocki expects to better understand the customer's business; provide more targeted support to the customer; and play a key role in the responsibility of an organization's business mission. "We are now working to assist supervisors about how to implement other new initiatives as



Paprocki and Sheri Brown, lead for accelerated leadership program

they are rolled out," said Paprocki. "We have a lot of bright, dedicated, and talented people in HR and we are trying to maximize opportunities for people to use those qualities. We are also continuing to strive to make human resource management more human friendly."

With any new initiative there are growing pains but ultimately this new strategy will create an atmosphere that

puts the right employee in the right place to effectively accomplish Goddard's mission. ■

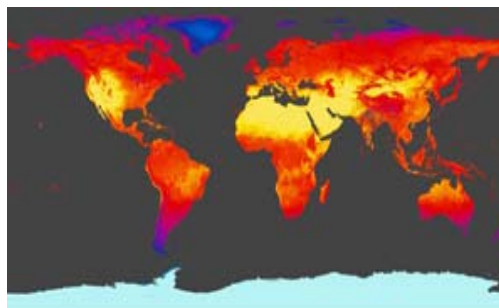


# Goddard in the News



New NASA Technology Helps Forecasters in Severe Weather Season made a huge splash in the news through Asia and Europe's Sun Television

Network with 40 million viewers! (10 Television Networks, in 5 languages in Europe, UK, Middle East, India). Other media that picked up the story includes Spacedaily, Sciencedaily, Spatial News, and many more.



Satellites acting as thermometers in space to showing a 18 year record of the Earth's surface temperature which indicates an increasing "fever" appeared in Innovations Report, Space Daily, Space Flight Now, Universe Today and United Press International.

Land Surface Temperature (deg C)



-25 -15 -5 5 15 25 35 45  
This image shows land surface temperature for the entire month of July 2003, one of the warmest months on record throughout much of Europe. This image was derived using data from NASA's Moderate Resolution Imaging Spectroradiometer (MODIS) sensor.

## Earth Science Education: Water Cycle Teachers Workshop

By Brian Campbell

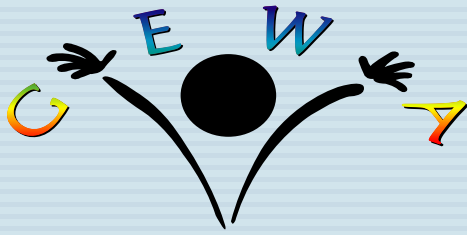
The 2004 NASA Water Cycle Teachers Workshop was held in March 2004. The workshop was a huge success with 58 teachers from Maryland, Pennsylvania, Delaware, New Jersey, Virginia, and Washington D.C. attending, as well as 20 Goddard civil servants and contractors. Teachers were instructed on the latest, classroom-friendly, water cycle science performed at NASA within a variety of Earth Science Directorate laboratories. Speakers included scientists from the hosting Laboratory for Hydrospheric Processes, as well as the Laboratory for Atmospheres and the Laboratory for Terrestrial Physics. Topics that were covered included an historical account of the water cycle, current water cycle research, Tropical Rainfall Measuring Mission's water cycle focus, and a discussion of the five major water cycle variables (evaporation, condensation, precipitation, groundwater flow, and runoff).

One of the teacher favorites was an interactive GLOBE program called **General Purpose Simulation Model of the Atmosphere-**

**Plant-Soil System or GAPS.** GAPS is a real-data, menu-driven model that allows students and teachers to simulate soil, plant, and atmospheric processes using a choice of algorithms and robust graphical display of output. Currently, this program is being piloted by a number of high schools nationwide and will be tested for further use by several of the workshop teacher participants this summer. If you would like more information about upcoming Laboratory for Hydrospheric Processes teacher education workshops, please contact the Education Lead for the Laboratory, Brian A. Campbell at 301-614-5684 or [Brian.A.Campbell.1@gssc.nasa.gov](mailto:Brian.A.Campbell.1@gssc.nasa.gov)

For more information about the Laboratory for Hydrospheric Processes see: <http://neptune.gsfc.nasa.gov>

Additional information about the lab and education can be found at: <http://neptune.gsfc.nasa.gov/education/> ■



# GEWA Activities

## GEWA Art of Living Club Special Guest Speakers

The **GEWA Art of Living Club** invites you to our lecture series with **Sri Sri Ravi Shankar**, humanitarian, consultant to world leaders, and leading self-development expert, and **Richard Brown, M.D.**, a renowned researcher and clinician using alternative methods to overcome boundaries and develop human potential on **Thursday, May 6** at 11 a.m. in the bldg 3 Goett auditorium . Their topic **“Maximizing performance: How to go beyond your boundaries and develop your latent potential”** will explore artificial and limiting boundaries, the nature and definition full human potential as our natural state; and how that state applies to our professional and personal lives. Please come and discover something new about yourself and add to our already rich Goddard community. For more information, please call Bill Hayden at x6-4267, Chris Smythe-Macaulay at x6-2490 or Vinod Patel at x6-9267.

## Bible Club Meeting

When someone mentions The Amish, what comes to your mind? Their ways don't match our fast-paced, technologically dependent world, but would we benefit from some of the simplicity of the lifestyle of these fascinating and intriguing people? All interested parties are invited to attend on **Tuesday, May 4**, in building 21, room 242 at noon. A video will take you inside the world of **The Amish**.

## GPSA Preparing for Upcoming Season - New Teams and New Players Welcome!

The Goddard Slow Pitch Softball Association (GSPSA) leagues are preparing for the upcoming season, and would like to extend an invitation to any new teams or players to join

the GSPSA. The leagues are open to all civil servants and contractors working on a NASA contract, and/or their immediate family members (spouse, siblings, children or in-laws).

The games are played at the old Antenna Test Facility, located off of Beaver Dam Road, on Monday through Wednesday evenings, immediately after work. The games are supervised by Goddard umpires. All skill levels are represented on the various teams, and the games are competitive, but fun. The GSPSA is interested in any new teams that would like to join, or individuals who might want to play as the existing teams may need a few players. Interested new team representatives, or individuals, should contact Bill Guit (GSPSA President) at 301-614-5188, [William.J.Guit@nasa.gov](mailto:William.J.Guit@nasa.gov) or Walt Moleski (GSPSA Treasurer)Walt Moleski 301-286-7633 or [Walter.F.Moleski@nasa.gov](mailto:Walter.F.Moleski@nasa.gov)

## Wanted: Strong Men or Women

For all of you who are armchair umpires and believe that you know the rules and can do better than the major leaguers, here is the opportunity to, prove your point and get paid at the same time. Even if you have never officiated before, but have a learning attitude, I can teach you the rules and how to umpire. If you are experienced - all the better. The Goddard Slow Pitch Association is looking for a few new umpires to fill out our existing roster. League play starts in late April and goes thru August. You need to be able to commit to either a Monday/Tuesday/Wednesday night for most of the season. The games are played at the Beaver Dam complex off Soil Conservation Road starting at 5:30PM. Pay is \$18/game payable at the end of each month. If you are interested, contact: Frank Stocklin 301 286-6339 or [frank.j.stocklin@nasa.gov](mailto:frank.j.stocklin@nasa.gov).

# Announcements

## Entertainers Needed

The Entertainment Committee for this year's Celebrate Goddard festivities and Community Day are looking for talented singers, dancers, musicians or anyone with a unique talent to volunteer to be a part of the festivities. Celebrate Goddard will have entertainment events **on Tuesday, July 27** between 10 a.m. to 2 p.m., and **on Thursday, July 29** between 10 a.m. to 1 p.m. and Community Day will take place on **Saturday, July 31** from 10 a.m. to 6 p.m. The events will be occurring on the Goddard Mall. Acts/performance should be approximately 20 minutes in length. Interested performers/individuals should contact Gerald Tiqui, 301-286-9461 for Celebrate Goddard festivities. Those interested in performing at Community Day should contact Nancy Neal, 301-286-0039.

## Craft Vendors Needed

The Craft Committee for this year's Celebrate Goddard Day is looking for craft vendors to be a part of this event. Celebrate Goddard Day will take place on Thursday, July 29 between 10 a.m. to 1 p.m. The events will occur on the Goddard Mall in front of Bldg 8. If you are interested in obtaining a table to display your crafts or need more information, please contact Cindi Savoy 301-286-7149 or via email [Cynthia.A.Jones-Savoy@nasa.gov](mailto:Cynthia.A.Jones-Savoy@nasa.gov). The cost for obtaining a table is \$30.00 (includes table, tent, and chair). Space available on "first-come, first-served" basis.

## Goddard Referral Service

Looking for information on issues such as adult care, child care, legal or financial assistance, health & wellness, or education, but don't know where to start? Let Goddard's Referral Service do the work for you! This service includes a website as well as Specialists available 24 hours a day/7 days a week - whenever the need arises. Check it out at: [www.worklife4you.com](http://www.worklife4you.com), and enter the following information: Agency Code: GSFC; password: last name + last 4 digits of SSN. Don't worry - the site is very secure & your information remains confidential. Please contact Khrista White at X6-9059, [khrista.n.white@nasa.gov](mailto:khrista.n.white@nasa.gov), or <http://ohr.gsfc.nasa.gov/family/home.htm> for assistance.

## Register for the NASA Aeronautics and Space Database

The NASA Aeronautics and Space Database is the Scientific and Technical Information (STI) Programs new repository for documents relevant to NASA's mission. From your own workstation, you have free access to over 3.5 million metadata records that include citations and abstracts of NASA journal

articles, technical reports, conference papers and proceedings, preprints, theses, and other forms of STI. Content ranges from the early NACA publications to today's latest research. Innovative features include full-text images in PDF format, custom display formats, saved search capability, and on-line document and video purchase. Register for free at [www.sti.nasa.gov](http://www.sti.nasa.gov).

## Wanted: Band & Singers for free Lunchtime Concerts

Singers and bands are wanted to entertain GSFC employees for free at Lunchtime Concerts sponsored by the Goddard Employees Welfare Association (GEWA) from May through September. All performers receive an opportunity to showcase their talents and, as a token of appreciation for their services, a free lunch of their choice at the GSFC Building 21, Cafeteria. For more information, please contact Cindi Jones-Savoy, at x6-7149, email: [Cynthia.A.Jones-Savoy@nasa.gov](mailto:Cynthia.A.Jones-Savoy@nasa.gov), or Tasha Davis, at x6-3243, email: [Tasha.L.Davis@nasa.gov](mailto:Tasha.L.Davis@nasa.gov).

## AirVenture Oshkosh 2004

NASA is an official exhibitor at the EAA AirVenture Oshkosh 2004, which runs July 27 - August 2 in Oshkosh, WI.

Along with special activities, AirVenture Oshkosh will again host more than 500 educational forums, seminars and workshops covering the entire spectrum of flight, as well as more than 700 exhibitors showcasing the latest innovations within the aviation industry. Daily afternoon air shows, fly-bys, evening programs and other gatherings will also be part of the celebration. This year's theme is "Launching the Next Century of Flight."

Goddard civil servant employees *with supervisory approval* may sign up to staff AirVenture by visiting the NASA Langley Research Center's on-line registration site at: <http://oea.larc.nasa.gov/airventure/>

## Dateline Newsletter

The Dateline Newsletter is a daily bulletin that highlights current GSFC events and announcements. The newsletter is e-mailed daily to subscribers only. To subscribe to Dateline send an e-mail message to [Majordomo@listserv.gsfc.nasa.gov](mailto:Majordomo@listserv.gsfc.nasa.gov) in the text area type subscribe dateline\_daily\_copy and within a few days you should start receiving dateline. To submit announcements direct e-mails to [dateline@listserv.gsfc.nasa.gov](mailto:dateline@listserv.gsfc.nasa.gov) For more information, contact Tara Holby at x6-8955.

NASA's Goddard Space Flight Center's (NASA's GSFC) African American Recognition Committee (AARC) is soliciting nominations for the upcoming **2004 Women of Color Technology Awards**.

The Women of Color Awards and Conference is an annual event sponsored by Career Communications Group, Inc., located in Baltimore, Maryland. This organization celebrates the superior achievements of minority women in the workplace. The conference provides encouragement and promotes educational opportunities for aspiring professional women in business, engineering, science, management, and today's world of innovative technology. The award identifies exceptional women who are making outstanding contributions in the Federal Government, Defense, and in the Private Industry sector. AARC and Goddard take pride in acknowledging past winners of this prestigious award including the 1999 Women of Color Award recipient for Career Achievement, Ms. Jacqueline Mims, and the 2002 Women of Color Award recipient for Educational Leadership, **Ms. Charlene Malloy**. AARC looks forward to nominating more outstanding, hard-working minority women who continuously demonstrate strength, determination, and dedication along the lines of science, management, research, and technology in the workplace. We are looking to submit candidates in the following categories:

1. Career Achievement
2. Community Service
3. Corporate Responsibility
4. Educational Leadership
5. Managerial Leadership
6. New Media Leadership
7. Research Leadership
8. Professional Achievement
9. Student Leadership
10. Technical Innovation

Please forward this information to your perspective committees /committee members, co-workers, and colleagues. Individuals who are interested in applying should contact me on extension 6-9708 or by e-mail at [Anetra.M.Tucker@nasa.gov](mailto:Anetra.M.Tucker@nasa.gov) to receive a copy of the application package and its' requirements.

**Applicants are due Friday, June 4, 2004... NO EXCEPTIONS!** This year's Women of Color Technology Awards and Conference will be held October 28-30, 2004 in Atlanta, Georgia. Applicants should also note that head-shot photos in both black & white and color are required for all submitted application packages (contextual, action shots are preferred).

For additional information, you may contact Ms. Anetra Tucker, AARC's 2004 Women of Color Awards Coordinator/Chairperson. You may also visit Career Communication's

website at <http://www.ccgmag.com> or the 2004 Women of Color Technology Awards' website at <http://www.womenofcolor.net>.

### **Volunteers Needed for Educational Programs/Fairs: Presenters Needed**

#### **Science Fair Judges Needed**

**Wednesday, May 5** at Bladensburg Elementary School for their science fair from 8:30 a.m. to 1 p.m.. If you can participate please call Nichel Brown-Smith at 301-985-1450 to sign up.

**Thursday, May 6** at Liberty High School in Eldersburg, Maryland from 6:00 pm to 9:00 pm. NASA participants will judge projects in the following categories: biological/life sciences, physical sciences and engineering. You can respond to Kelly McCauley at [ManateeRay@aol.com](mailto:ManateeRay@aol.com) to be a judge.

#### **Career Day Presenters Needed**

**May 14-18, 2004** at Cesar Chaevez Elementary School. Presenters are invited to visit the school to discuss your career with students. You can contact: Verna L. Cabralis at 301-853-5694 to sign up.

**Thursday, May 20th** at Bunker Hill Elementary 1401 Michigan Ave, NE., Washington, DC 20017 from 11:30 am to 3:00 pm. Presentations should be 30 minutes period to 3 to 4 groups of students. If you are available to be a presenter. Please contact Shelia Holt at 202-576-6095 for further information.

**Friday, June 4** at Whetstone Elementary School, 19201 Thomas Farm Road, Gaithersburg, MD. The audience is a total of 25 3rd-5th graders divided up into 3 sessions from 9:30 a.m.-11:30 a.m. Presentations should be 30-40 minutes each with no more than 10 students in any session. Age-appropriate handouts/"goodies" and any hands-on "props" that are used in the volunteer's work would be appreciated. The talk should focus on "Space" in general and specifically the job that the speaker does at Goddard. Refreshments will be available for presenters from 8:30- 9 a.m. Volunteers should contact Parveen Dillon at 301-279-7029 before May 21.

#### **Call For Mentors: SHARP Program**

Mentors are needed for the Summer High School Apprenticeship Research Program (NASA SHARP). Students will have the opportunity to work with a scientist, engineer or technologist conducting meaningful research to enrich and develop oral and written communications, computer and leadership skills, experience in preparing written final reports and developing abstracts of research. If you are interested in mentoring a SHARP student this summer contact Charles Mercer at [cmercer@pop100.gsfc.nasa.gov](mailto:cmercer@pop100.gsfc.nasa.gov) or Mrytle Brijbasi at [mybrij@comcast.net](mailto:mybrij@comcast.net).

# Events



## Associate Administrator Jennings to Visit Goddard to Discuss Culture Survey Results on May 6

**What:** Associate Administrator for Institutions and Asset Management, James Jennings will lead a team to GSFC for a one-day workshop to more fully discuss the results of the culture survey and its application to us.

**When/Where:** On **Thursday, May 6** there will be meetings with the Center's Executive Council, an All Supervisors session in the morning at 10:00 - 11:30 a.m., as well as a Town Hall meeting for all employees in the afternoon from 1:00 p.m. - 2:30 p.m. Both the All Supervisors session and the Town Hall meeting will be held in the Building 8 auditorium.

## Goddard Health Fair

**What:** This event is sponsored by the Health Unit, Employee Assistance Program and Fitness Center and is design to equip you with knowledge of some of the Goddard services that assist with you maintaining a healthy lifestyle. In addition, there will be free health screenings such as, thermographic, depression and spinal.

**When/Where:** **Thursday, May 6** in Bldg. 26 room 205 from 10:30 a.m. to 1 p.m.

## 2004 Quality of Worklife Expo "Discover the Other Side of Goddard"

Beyond the work that we do, there are programs, activities and other amenities that enhances our work experience at Goddard. Come to the QWL Expo and learn more about:

- Compensation
- Employee Development
- Health Services
- Family Friendly Services
- Community Involvement/Outreach
- Goddard Environment

**When/Where:** **Tuesday, May 11th** in the Building 8 auditorium

## Can We Talk?

Is something on your mind? Then speak up! Come to the next "Can We Talk" discussion and tell us what you think. These informal dialogue sessions are held each month with either Center Director A.V. Diaz or Deputy Director Bill Townsend. There's no agenda, no set topics, no notes. Just an opportunity to tell the Center's leadership what's on your mind. Anyone can come. Sessions are small, no more that 20 people, and it's "first come, first serve." The discussion will be on **Thursday, May 13**. To sign up, visit the Goddard Internal home page at <http://internal.gsfc.nasa.gov/canwetalk.html> or call the Office of Public Affairs at x6-8955.

## Bring up Baby

The Women's Advisory Committee and the Goddard Child Development Center are pleased to present the fourth of the series of "Bring up Baby" talks for parents, grandparents, uncles, aunts, godparents, and mentors to kids ages 0 – 50. All Goddard and contractors employees are invited to attend. Bring your lunch and a friend. We will provide cookies and lemonade.

## Using Positive Discipline in Raising Children with Special Challenges

Behavior problems develop in children with special challenges, such as ADHD, learning disabilities, or developmental disabilities. It is difficult to know what is "normal" for the condition and what misbehavior is. Learn ways to diagnose and redirect the misbehavior and to encourage the positive behavior.

**When/Where:** **Thursday, May 13** at 11:30 am to 12:30 pm in Building 7 Room N200BC

Information about the presenter, Emory Luce Baldwin, and her organization, PEP ([www.ParentEncouragement.org](http://www.ParentEncouragement.org)):

If you would like further information or have questions, please contact Florence Tan at 301-286-3072.

## Earth Science Technology Conference

NASA's Earth Science Technology Office (ESTO) is presenting the fourth annual Earth Science Technology Conference in Palo Alto, Calif., June 22-24. The conference will showcase a wide array of technology research related to NASA Earth science efforts. Attendees will encounter new developments in information systems, computing, instruments, and component technologies and learn about the vision and future needs for Earth science technology.

To register, examine abstracts and presenters, and preview the venue and schedule, log onto the conference homepage at <http://esto.nasa.gov/conferences/estc2004/>

### Scientific Colloquia

(All the colloquia are held in Bldg 3 Goett Aud at 3 p.m.)

**Who:** Dr. Len Burlaga, Code 692; Dr. Tom Krimigis, Applied Physics Laboratory and Dr. Frank McDonald, Univ. of Md. will discuss Voyager1's journey, the results and recent activities.

**When: Friday, May 7**

**Who:** Dr. Gauthier Hulot, Code 921 will present on *Past and Future of the Earth's Magnetic Field*. Dr. Hulot will examine introduce the various sources that contribute to the observed magnetic field, explain how combined ground based and satellite observations makes it possible to isolate the field of each source and discuss some of the associated discoveries.

**When: Friday, May 14**

### John C. Lindsay Memorial Lecture

**Who:** Catherine Pilachowski, Indiana Univ. will discuss, *Giant Telescopes, Heavy Metal and Ancient Superstars*. Dr. Pilachowski will discuss how giant new telescopes using space-age technology have given a glimpse of the first stars and from the compositions of stars that formed more than 10 billion years ago, scientists can trace the origin of the first elements fused from primordial hydrogen and helium, and identify sites of nucleosynthesis.

**When: Friday, May 21**

### Engineering Colloquia

(All colloquia are held in Bldg 3, Goett Aud at 3:30)

**Who:** Curt Newport, Newport Explorations will deliver his presentation on *Raising Gus Grissom's Mercury Capsule*. Astronaut Virgil I. "Gus" Grissom was on America's second manned space mission. While the flight itself was a success, Grissom nearly drowned as his Mercury capsule, Liberty Bell 7, sank in deep water after an explosive hatch jettisoned prematurely. Over twenty years later, Curt Newport made a personal commitment to determine whether or not it was technically feasible to locate and recover Liberty Bell 7. In May of 1999 a Discovery Channel expedition organized by Liberty Bell-7, Inc. successfully located Liberty Bell 7 in waters 16,043 feet deep using Oceaneering International's Ocean Explorer 6000 side scan sonar; the spacecraft was discovered intact amidst the rugged terrain of the Blake Basin, in the North Atlantic Ocean, proving the feasibility of using a wide swath low frequency sonar to locate small-sized isolated targets.

**When: Monday, May 10**

**Who:** Martha Ackmann, author will explore the topic, *Mercury 13: The True Story of Thirteen American Women and the Dream of Space Flight*. Dr. Ackmann will examine the plight of thirteen U.S. women's quest for becoming astronauts.

**When: Monday, May 17**

**Who:** Rainer Weiss, professor of physics, Emeritus at the Massachusetts Institute of Technology will discuss, *The LIGO (Laser Interferometer Gravitational-wave Observatory): How it Works and What it Hopes to Find*. Dr. Weiss will describe the basic concepts of the instrument and some of the techniques that have been developed to achieve the required sensitivity. The LISA (Laser Interferometer Space Antenna), a joint project of NASA and ESA with strong Goddard participation.

**When: Monday, May 24**

### System Engineering Seminar

**Who:** Michael Hagopian, NESC Chief Engineer at GSFC, Frank H. Bauer, NESC Discipline Expert for Guidance, Navigation and Control, Robert A. Kichak, NESC Discipline Expert for Power and Avionics will describe The panel of speakers will provide an overview of the NESC, discuss the NESC culture, and describe the methods used to develop and nurture the teams of experts called "Super Problem Resolution Teams" as well as the process used to conduct the Independent Technical Assessments for NASA's programs and projects. All employees and visitors with a Goddard badge are welcome.

**When/Where: Tuesday, May 4** at 1p.m. in the bldg. 3 Goett Auditorium.

For more information call Tom Bagg, 301-867-0063, email [Thomas.C.Bagg.1@gsfc.nasa.gov](mailto:Thomas.C.Bagg.1@gsfc.nasa.gov), or visit: [http://seacd.gsfc.nasa.gov/SE\\_Seminar/](http://seacd.gsfc.nasa.gov/SE_Seminar/)

The seminar will be webcast live to the NASA domain at: [http://128.183.174.165/Colloquia\\_asx/NASA/Live/B3NASALive.aspx](http://128.183.174.165/Colloquia_asx/NASA/Live/B3NASALive.aspx)

### Director's Colloquium

**Who:** Dr. Micheal Broom author of the book *The Infinite Organization: Celebrating the Positive Use of Power in Organizations*, will discuss the new paradigm of infinite power. This paradigm is offered as a replacement for the finite power perspective. Infinite power is based on the assumption that power is abundant and can be accrued through partnering and learning. Dr. Broom founded the Center for Human Systems and has taught at Johns Hopkins and Georgetown Universities

**When/Where: Wednesday, May 19** at 10 a.m. in the bldg 3 Goett auditorium

For more information, visit: <http://centerdircolloq.gsfc.nasa.gov/>

### Space and Cosmic Ray Physics Seminars - Spring 2004

All seminars are held at the University of Maryland, Computer and Space Science building in room 2400 at 4:30 p.m., tea and cookies at 4 p.m.

**Who:** Dr. Chee K. Ng, Goddard Gamma Ray and Cosmic Ray Astrophysics Branch will examine the topic, *Transport and Acceleration of Solar Molecules*. Dr. Ng will discuss how far

## Space and Cosmic Ray Physics Seminars (cont'd)

resonant wave-particle interaction, which comprises particle scattering and wave amplification, allows us to understand many observed features of gradual SEP events. In addition to describing the key role of wave amplification by streaming energetic protons and by shock transmission in SEP acceleration and transport. The implications of the spatial variation of the interplanetary wave intensity spectrum, the resonant wavelength, and the Alfvén speed, and why it is difficult to observe direct evidence for wave amplification at 1 AU will also be discussed.

**When: Monday, May 3**

**Who:** Dr. Igor Moskelenko, Goddard Goddard Gamma Ray and Cosmic Ray Astrophysics Branch

**When: Monday, May 10**

For free parking please park in lot DD or anywhere on levels 1-2 in lot B (the big parking garage) after 4:00 pm. Make sure that you park in a spot WITHOUT a parking meter.

For information call Matthew Hill at (301) 405-6209 or go to the following website: [http://space.umd.edu/seminars/Spring\\_2004\\_Seminar.html](http://space.umd.edu/seminars/Spring_2004_Seminar.html)

## Upcoming Training

IDP Workshops

In the IDP Workshop for Supervisors and the IDP Workshop for Employees, many questions have come up around the IDP process. Under OHR's career development page, there is a list of Frequently Asked Questions (FAQs) that have come from both supervisors and employees. These questions have been answered by OHR staff and legal counsel. Please take time to review these FAQs at <http://ohr.gsfc.nasa.gov/DevGuide/idp.htm>. Questions? Please contact Tracey White. To view all of the upcoming training courses, visit: <http://ohr.gsfc.nasa.gov/DevGuide/Home.htm>

## Professional Development Center (PDC)

Upcoming Workshops

The PDC is offering one-hour brown bag workshops entitled, "Resume Writing"; "Marketing Yourself Effectively"; "Giving and Receiving Feedback" and "Job Search Strategies." For detailed information, visit <http://ohrcoursecatalog.gsfc.nasa.gov/search/search.cfm?search=2&category=1> or contact Tracey White at x6-7823 or [Tracey.C.White.1@gsfc.nasa.gov](mailto:Tracey.C.White.1@gsfc.nasa.gov).

One-on-One Career Coaching

Whether you are contemplating a career change, in need of assistance with resume writing, interviewing techniques, or trying to develop an Individual Development Plan (IDP), a career coach can help. To schedule a confidential one-on-one appointment in the PDC, contact Tracey White at x6-7823. This service is provided to civil servants only.

## Resume Writing Training Classes

All the classes scheduled for Greenbelt will be held in building 1 room 006.

May 13	2:00 - 3:30 p.m.
July 15	10:00 - 11:30 a.m.
Sept 15	1:00 - 2:30 p.m.

Classes will also be offered at WFF in the MEC room 208. The dates and times are as follows:

April 21	1:00 - 3:00 p.m.
August 19	9:00 - 10:30 a.m.

If you need any additional information, please contact Sherri Tepper 6-5170. No training form required.

## Information Science and Technology Colloquia

The IS&T colloquia are held at 3:30 p.m. in the bldg 3, Goett Auditorium

**Who:** J. Strother Moore, Admiral B.R. Inman Centennial Chair in Computing Theory at the University of Texas at Austin will speak on the topic, *An Executable Formal Model of the Java Virtual Machine*. Dr. Moore will sketch a model of the JVM that includes dynamic class loading, class initialization and synchronization via monitors.

**When: Wednesday, May 5**

## Education Symposium

**What:** NASA, Code Directors of Elementary and Secondary Education, Higher Education, Informal Education and Technology and Products will provide an overview of the Education Enterprise and pipeline. There will be a Q & A session. This symposium is sponsored by GSFC Education Council.

**When/Where: Tuesday, May 25th, 9:00 am to 12 noon** in the Bldg 8 Auditorium

For additional information, contact Antoinette X6-7262.

## Mark Your Calendars For: Goddard's Community Day

Explore NASA's Goddard and Beyond

**Saturday, July 31, 2004 at 10 a.m. to 6 p.m.**

Bring your family and visit the Goddard Space Flight Center for a free day of exploration and fun for all ages!

- Live Entertainment and Delicious Food from Local Restaurants
- Real-Time Rocket and Wallops Balloon Demos
- Exciting tours of the facilities on the Goddard Campus

- ❑ Explore Earth and Space with Exhibits and Presentation by NASA Scientists and Engineers
- ❑ Enjoy Hands-on and Interactive Educational Opportunities For the Kids
- ❑ Learn about Goddard Student Programs and possible job opportunities

Learn All About What's Happening In Your Own Backyard!

**Think BIG!** The NASA GSFC/WFF Chapter of Blacks in Government (BIG) welcomes new members and visitors to join us for our monthly General Meeting. Meetings are held **the third Wednesday of each month** from 11:30 a.m. – 1p.m. Individuals who are interested in attending our Membership Meetings should contact Larry Phillips, Chapter President at (6-6035 or 6-4401) or Anetra Tucker (6-9708) to have his/her name added onto the mailing list.

**For more information**, please contact the following BIG Members:

Joyce Brooks, BIG GSFC/WFF 1<sup>st</sup> Vice President, at GSFC, 6-5912  
 Regina Waters, BIG GSFC/WFF 2<sup>nd</sup> Vice President, at Wallops Flight Facility, 7-1337  
 Willis Jenkins, BIG GSFC/WFF Executive Vice President, at NASA Headquarters, (202) 358-1285

### Mammography Screening

The George Washington University Mammovan will be at the Goddard Health Unit Parking Lot for eligible civil servants. Interested employees should call (202) 741-3020 to schedule an appointment for **Thursday, May 27**.

For more information, call the Health Unit at 6-6666.

### First Call for Papers-7th Mil/Aerospace Applications of Programmable Logic Devices International Conference (MAPLD)

This Conference is hosted by the NASA Office of Logic Design

**What:** The 7th annual MAPLD International Conference's extensive program will include presentations, seminars, workshops, and exhibits on programmable logic devices and technologies, digital engineering, and related fields for military and aerospace applications.

Devices, technologies, logic design, flight applications, fault tolerance, usage, reliability, radiation susceptibility, and encryption applications of programmable devices, processors, and adaptive computing systems in military and aerospace systems are among the subjects for the conference.

This event promises to be exciting with presentations by government, industry, and academia, including talks by distinguished invited speakers. This conference is open to US and foreign participation and is not classified. For related information, please see the NASA Office of Logic Design Web Site (<http://klabs.org>).

This year, there will be special emphasis on the following themes:

- "War Stories" and Lessons Learned
- Programmable Logic and Obsolescence Issues
- Implementing high performance, high reliability processor cores.
- Logic design evaluation, design guidelines, and recommendations.
- Verification methods for radiation hardness and fault tolerance.
- Applications such as MIL-STD interfaces, UAV's, and controllers.
- Automated Checkers for low reliability design constructs.
- PLD tools/methods that we need but vendors don't supply.

**When/Where:** September 8-10, 2004 at the Ronald Reagan Building and International Trade Center in Washington, D.C.

For more information, visit the Conference home page at: <http://klabs.org/mapld04>