National Aeronautics and Space Administration
www.nasa.gov
Volume 3 Issue 15
November 2007

GoddardView

Goddard Instrument Makes Cover of *Science*

Pg 3

Dan Rather Visits Goddard for Interview with Dr. Waleed Abdalati

Pg 5

Presidential Rank Award Recipients

Pg 8

Got Trash? Recycle!

By Trusilla Steele

Photo credit: Bill Hrybyk

Caption: Phil Sabelhaus.

Trash on Center in Greenbelt appears to be in abundance since the removal service was reduced to once a week. Many office and outdoor trash containers are overflowing. Have you found your office in this situation?

If so, consider your recyclables. You can recycle your plastic, glass, and aluminum drink containers in a mixed container recycle bin that's in your office or building. In addition to recycling white paper, it's now just as convenient to recycle other paper products in the mixed paper recycling bins that are now established. Did you know you can put manila files, envelopes, report covers, magazines, light cardboard, and phone books in the mixed paper recycle bin? Could some of these items be what you've been taking to the dumpster?

Recycling not only provides more room in your trash container for basic trash items, it also preserves the environment in which we all live. If you can take your trash to the waste dumpster you can also take your recyclables to the proper bins.

That's exactly what employees working on the *James Webb Space Telescope* (JWST) are doing. Influencing this recycling effort is Phil Sabelhaus, JWST Project Manager who says he's "been an advocate for recycling for many years." He even takes items home to recycle. Sabelhaus stated that the opportunity to encourage employees to recycle came when trash receptacles were overflowing as a result of the reduced trash removal service.

Once the recycling bins were in place, Sabelhaus encouraged everyone to recycle, stating "even if you don't believe in recycling, do it for the sake of keeping the trash from overflowing on to the floor." Sabelhaus said the response was favorable and "they went from overflowing trash to overflowing the recycling bins."

Sabelhaus believes that 80% of his staff recycles. So how does he get the 20% of "hard core non-recyclers" to convert? Sabelhaus will go into a meeting with a plastic bag in hand, rummaging through the trash and pulling out recyclables to make the point very clear in front of all in attendance, that recycling is a must. In addition, if he sees employees throwing away recyclables, he will bring to their attention the need to throw their recyclables in the proper recycle bin.

Sabelhaus' message to employees is "even if you don't believe in recycling, think about reducing the waste in your trash can."

For more information on Goddard's recycling services, please visit: http://recycle.gsfc.nasa.gov ■

Table of Contents

Cover This is a montage of New Horizons images of Jupiter and its volcanic moon Io, taken during the spacecraft's Jupiter flyby in early 2007.

Image credit NASA/JHU/APL

GoddardView Info

Goddard View is an official publication of the Goddard Space Flight Center. It is published bi-weekly by the Office of Public Affairs in the interest of Goddard employees, contractors, and retirees. A PDF version is available online at:
http://www.nasa.gov/centers/goddard/news/index.html

Managing Editor: Trusilla Steele
Editor: Alana Little

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

Goddard Instrument Makes Cover of *Science* Magazine

By Bill Steigerwald

Goddard's Linear Etalon Imaging Spectral Array (LEISA) instrument has become a first-rate photographer, contributing to this spectacular photo of Jupiter, which appeared on the cover of the October 12 issue of the journal *Science*. It is a montage of Jupiter and its volcanic moon Io, taken by the *New Horizons* spacecraft as it sped past Jupiter on its way to Pluto.

The LEISA instrument on *New Horizons* was used to make the Jupiter image, taken February 28, 2007. It's a false-color composite of infrared light emitted by the giant planet's atmosphere. The wavelengths used micrometers (µm), (red: 1.59 µm, green: 1.94 µm, blue: 1.85 µm) highlight variations in the altitude of the Jovian cloud tops, with blue denoting high-altitude clouds and hazes above 300 millibar pressure level, and red indicating clouds as deep as several bars. (Because Jupiter has no solid surface, pressure is used to indicate altitude; for comparison, the typical pressure of Earth's atmosphere at sea level is about one bar.) The prominent bluish-white oval is the Great Red Spot.

LEISA is a component of the Ralph instrument suite on *New Horizons*. Ralph is a visible-light-and-infrared imager and spectrometer. It will provide color, composition, and thermal maps of Pluto and its moons. According to Goddard's Dr. Dennis Reuter, Project Scientist for Ralph, LEISA observed clouds of ammonia welling up from Jupiter's lower atmosphere; measured the infrared glow from at least 36 Io volcanoes, and measured lava temperatures up to 1,900 ˚F (1300 K); and differentiated between fresh and processed water ice on Jupiter's giant moon Ganymede.

In addition, the Multi-spectral Visible Imaging Camera (MVIC) instrument is another component of Ralph, and Goddard's analysis of MVIC data produced the most detailed size, and the first speed measurements, yet of "waves" that run the width of the planet and indicate violent storm activity below, according to Reuter.

The Io image, taken on March 1, 2007, is an approximate true-color composite taken by the panchromatic Long-Range Reconnaissance Imager (LORRI), with color information provided by the 0.5 µm ("blue") and 0.9 µm ("methane") channels of the MVIC. The image shows a major eruption in progress on Io's night side, at the northern volcano Tvashtar. Incandescent lava glows red beneath a 330-km (205-mile) high volcanic plume, whose uppermost portions are illuminated by sunlight. The plume appears blue because of Rayleigh scattering by small particles.

New Horizons is the first mission in NASA's New Frontiers Program; Alan Stern of NASA Headquarters leads the Mission and Science Team as Principal Investigator. The Johns Hopkins University Applied Physics Laboratory built and operates the *New Horizons* spacecraft and manages the mission for NASA's Science Mission Directorate. The mission team also includes Southwest Research Institute, Ball Aerospace Corporation, the Boeing Company, NASA Goddard Space Flight Center, NASA Jet Propulsion Laboratory, Stanford University, KinetX Inc. (navigation team), Lockheed Martin Corporation, University of Colorado, the U.S. Department of Energy, and a number of other firms, NASA Centers, and University partners.

■

Caption: Jupiter image, taken February 28, 2007. It's a false-color composite of infrared light emitted by the giant planet's atmosphere. This image also appears on the cover in full color.

Image Credit: NASA/JHU/APL

Geospatial Workforce Development Gets a Boost from Goddard Personnel

By Jeannie Allen

Photo credit: iGett Participants

Caption: Members of the first iGett project group.

This summer, 20 community and tribal college faculty members gathered at Del Mar College in Corpus Christi, Texas, to participate in two weeks of training as the first group of the Integrated Geospatial Education and Technology and Training (iGETT) project. During the next three years, they and a second group of faculty selected from applicants around the country, will develop model Learning Units and expand their programs to address workforce needs for employees who can use geospatial data.

Landsat education personnel, contracted through Science Systems and Applications, Inc. (SSAI) at Goddard, received funding to provide leadership, training, mentoring, and technical support for iGETT. This effort was done in partnership with the National Council for Geographic Education (NCGE); Del Mar College, Environmental Systems Research Institute (ESRI); and the U.S. Geological Survey (USGS),

The geospatial industry was recently identified by the U.S. Department of Labor as one of the fastest growing areas of our economy. In this dynamic, interdisciplinary field, Federal remote sensing data play a critical role. Goddard's Landsat, staff and partners, held a conference at the National Science Foundation (NSF) in 2005 where representatives from the geospatial industry, Government agencies, academia, and professional associations examined the potential for two-year colleges to meet essential basic geospatial training needs. The report from this conference is available on the NCGE Web site at: http://ncge.org/publications/gew.

Based in part on the results of the conference, the NSF funded iGETT for three years (2007–2010) to help meet the need for a geospatially literate workforce. Osa Brand, Education Outreach Director for NCGE, is the project's Principal Investigator.

The first year of iGETT included a two-week institute at Del Mar College focused on an introduction to the fundamentals of remote sensing; on downloading and analyzing Landsat, Moderate Resolution Imaging Spectroradiometer (MODIS), and Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) data; using Global Positioning Systems (GPS); and integrating both technologies into Geographic Information Systems (GIS).

During the first institute in August 2007, scientists from USGS and NASA presented examples of how remote sensing is used for agriculture, disaster management, and environmental sciences.

An all-day trip to Padre Island National Seashore gave participants the opportunity to conduct ground-based validations of satellite data.

At the end of the Institute, participants submitted proposals for Learning Units that address workforce needs. Learning Unit titles include "Correlation and Classification of Soil Valuation and Agricultural Land Parcel Taxation in Kidder County North Dakota;" "Post-Fire Recovery of Chaparral Vegetation in Southern California," "Response of Quaking Aspen (Populus tremuloides) to Major Wildfire of 1986 on Rocky Boy Indian Reservation," and "Estimating Areas of Suitable Grazing Land in Montana Using GPS, GIS, and Remote Sensing."

Work will continue during the academic year with teleconferences, completion of an online class in remote sensing from the University of Mississippi's Institute for Advanced Education in Geospatial Sciences, and completion of participants' Learning Units. The second summer will consist of a week-long institute focused on implementation of the Learning Unit; development of outreach and program marketing strategies, such as student recruiting at regional high schools and outreach to four-year colleges; and dissemination of information about the programs at regional meetings and conferences. During this time, Group 2 will begin their two-week institute, so the two groups will overlap, and can share experiences.

The iGETT project will provide online resources for all two-year college faculty members who are interested in replicating relevant aspects of the project. To that end, detailed information will be available on the iGETT Web site after the end of the project. The program evaluation is being conducted by South Carolina Advanced Technological Education, Inc.

For more information about iGETT, contact Jeannie Allen, at: Jeannette.E.Allen@nasa.gov

■

Dan Rather Visits Goddard for Interview with Dr.Waleed Abdalati

By Rob Garner

Photo credit: Wade Sisler

Caption: Dan Rather, Retired CBS anchorman and Dr. Waleed Abdalati.

Retired CBS anchorman Dan Rather visited NASA's Goddard Space Flight Center on September 28, to interview Dr. Waleed Abdalati for his new television program, "Dan Rather Reports," on HDNet.

Abdalati, who heads the Cryospheric Sciences Branch at Goddard, studies high-latitude glaciers and ice sheets. In addition to his extensive work with satellite observations of the northern polar region, he has participated in several field expeditions to Greenland and the Canadian Arctic.

That experience made Abdalati the perfect interview choice for a segment on "Dan Rather Reports," which focused on changes in the Arctic, recognized by many scientists as a bellwether for global climate change. The 20-
minute segment aired as part of the show's October 2 broadcast.

The show's producers contacted Goddard's Earth science producer, Sarah DeWitt, in response to a major NASA image release about the record-breaking Arctic sea ice minimum observed in 2007.

Rather and Abdalati talked for roughly an hour in the Goddard Science TV studio about "the significant shrinking of Arctic sea ice and the Greenland ice sheet," Abdalati said.

"[Rather] was extremely pleasant, friendly, and knowledgeable," Abdalati said. "As the producers and camera-people were setting up, he was very personable, talking about fishing in Alaska, asking questions about my newly adopted daughter, and various other 'human' things. There was a certain sincerity about his interest in the topic that I found very refreshing and impressive. It is clear that he really cares about the topic." In a time when most interviews are conducted over the phone just to get a few sound bites, Abdalati said he was struck by the fact that Rather flew down from New York just for the interview and to see high-definition data visualizations and animations from Goddard's Scientific Visualization Studio and Conceptual Imaging Lab.

DeWitt and Laura Spector, from Goddard's Public Affairs Office, helped coordinate the interview. Production Manager Pat Kennedy and Media Specialist Chris Smith assisted the HDNet camera crew.

"Everyone seemed really excited to be working with him," Smith said. "But Rather took it all in stride. He was cordial to everyone and definitely at the top of his game."

Rather did not just impress Abdalati from a professional standpoint. "After watching him since I was a kid, I found the opportunity to interact with him face-to-face to be tremendously enjoyable," he said. "He really is more than a celebrity, he is an icon." ■

Photo credit: Wade Sisler

Caption: Dan Rather interviews Dr. Waleed Abdalati in the Science TV Studio.

The Technology Transfer Quiz: Dispelling the Myths

By Nicole Quenell

While Technology Transfer is nothing new to Goddard, common misconceptions about the process linger. Goddard's Innovative Partnerships Program (IPP) Office is working to dispel the myths surrounding technology transfer and technology infusion through a variety of communication efforts including monthly training sessions, *Tech Transfer News* (the Office's monthly publication), events, and more. And now, the Office is offering a monthly quiz in *Goddard View* to help civil servants and contractor personnel test their own knowledge of technology transfer as it relates to different areas of research or expertise. The focus this month is on software. Read on to test your knowledge, and find out how you can learn more.

Software Release and IP Protection.
Decide whether the following software-specific statements are true or false.

1. Software innovations are considered to be in a different technology category than other inventions; therefore, they don't need to be reported.

False. For the purposes of technology reporting, software is considered to be the same as any other Goddard innovation. In order to protect NASA's intellectual property (IP), the innovation must be reported to the IPP Office using a New Technology Report (NTR).

2. I've developed a software application for a specific NASA mission. Because it was developed only for NASA use, I don't need to report the technology.

False. All new innovations developed should be reported using an NTR, regardless of the original intended application. Even if your software only has one intended use, the IPP Office can help determine if the innovation has other potential commercial uses and/or strategic value for Goddard.

3. If I report my software via an NTR, I won't be able to control how, and by whom, my software is used.

False. In fact, reporting your software via an NTR is the best way to ensure that its distribution and use are controlled. Plus, filing the NTR makes your innovation eligible for many NASA and non-NASA awards.

For more information about the IPP Office's awards program, visit: http://ipp.gsfc.nasa.gov/awards-info.html

4. I have some contacts outside of NASA who will want to test out my software right away, so I can begin the software release process with them to help speed things along.

False. You should never release a software invention to anyone before you have reported it via an NTR. Doing so may result in an inability to secure IP protection. Once reported, your software will be handled by IPP Office personnel who can determine the best software release process and evaluate commercial and strategic potential.

5. I'm not sure if anyone outside of NASA would be interested in my software, so it's a good idea to talk to some industry contacts about the software before I decide whether to report it.

False. You should report any new invention—including software—as soon as you recognize that you have a new innovation. It is important to report the software before you speak with anyone outside NASA about it so that the IPP Office can secure appropriate protection for the innovation and control information distributed about it.

6. Reporting my software won't protect my invention because civil servants cannot own a copyright on software.

False. While civil servants cannot own copyrights on software, software applications developed by civil servants may be patentable. Therefore, you should report your software innovations so that the IPP Office can help determine if patenting is possible and appropriate.

Want to learn more? Sign up for Tech Transfer Training now!

Info: Contact Dale Hithon (301-286-2691), or visit the Software Release Web page: http://ipp.gsfc.nasa.gov/SRA/index.html

■

Senator Mikulski Hosts *Hubble* SM-4 Crew Lunch

By Natalie Simms

Photo credit: Senate Photo Studio

Caption: Senators Mikulski and Shelby with the Hubble *SM-4 Crew.*

Senator Barbara A. Mikulski (D-MD), Chairperson of the Senate Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies, hosted a lunch at the U.S. Capitol on September 10 for the seven astronauts selected for the next *Hubble* servicing mission (SM-4). Also in attendance were Ranking Republican, Senator Richard Shelby (R-AL), and Senator Bill Nelson (D-FL), NASA Administrator Michael Griffin, NASA Associate Administrator Bill Gerstenmaier, and Center Director Ed Weiler. The SM-4 crew members included Mission Commander Scott Altman; Captain Gregory Johnson, who will pilot the mission; and Mission Specialists John Grunsfeld, Michael Massimino, Andrew Feustel, Michael Good, and K. Megan McArthur. Lunch was served in the Strom Thurmond Room of the U.S. Capitol Building.

Sen. Mikulski expressed her sentiment and passion for *Hubble* and NASA. "I promised that if the NASA Administrator said a servicing mission was safe, I would fight for the funding to get it done. *Hubble* has been the single most important scientific instrument since Galileo's telescope and its best years are still ahead of it." Sen. Shelby echoed his support for NASA and its upcoming missions. "Senator Mikulski and I share a close working relationship and we support each other."

The lunch concluded with each astronaut discussing what their particular role was for the mission and what strikes them as being unique about SM-4. Then, in turn, all three Senators offered brief stories on how they began their careers in politics.

During the scheduled 11-day SM-4 flight, the seven astronauts will repair and improve the observatory's capabilities through 2013. An attempt will also be made for the first ever on-orbit repair of two science instruments—the Space Telescope Imaging Spectrograph and the Advanced Camera for Surveys. NASA managers are targeting August 7, 2008 as the official launch date. Be sure to watch NASA make history with the fifth and final Space Shuttle servicing mission to the *Hubble Space Telescope*. ■

Presidential Rank Award Recipients

By Crystal Gayhart

Each year, the President of the United States honors a select group of career members from the Senior Executive Service (SES), Senior Level (SL), and Scientific and Technical (ST) corps who are selected for their outstanding leadership accomplishments and service over an extended period of time in some of the Nation's most critical positions in the Federal Government.

These senior executives (SES) and senior professionals (ST and SL) are outstanding leaders, who consistently demonstrate strength, integrity, industry, and a relentless commitment to public service. Through their personal conduct and results-oriented leadership, they have earned and kept a high degree of public confidence and trust. They have demonstrated their success in balancing the needs and perspectives of customers, stakeholders, and employees with organizational results. Senior executives and senior professionals from across the Government are nominated by their Agency heads, evaluated by citizen panels, and, finally, approved by the President.

There are two categories of rank awards, Meritorious and Distinguished, with Distinguished being the highest honor that can be bestowed by the President. Each year, not more than 5% of Government-wide career SES and ST employees may receive the Meritorious rank award for their sustained accomplishments. Not more than 1% of Government-wide career SES and ST employees may earn the Distinguished rank for their sustained extraordinary accomplishments. For the FY06 performance period, Dr. Michael Ryschkewitsch was the GSFC recipient who was bestowed the highest honor of Distinguished Senior Professional as a member of the SES core. In addition, Mr. George W. Morrow, Mr. Thomas J. Magner, and Dr. David S. Leckrone were recognized with the Meritorious Presidential Rank Award.

Michael G. Ryschkewitsch
(Distinguished SES Award Recipient)

From October 2005 through August 2007, Dr. Ryschkewitsch served as the Deputy Center Director for the NASA Goddard Space Flight Center (GSFC). With the Center Director, he was responsible for the overall scientific, programmatic, and financial management of the Nation's largest organization of combined scientists and engineers, focused on exploration of the Earth, solar system, and universe. He oversaw a workforce of nearly 9,000 civil servant and contractor employees, and managed an annual Center budget of $2.5B. He was responsible for more than 20 flight projects in development, including the *Hubble Space Telescope*'s (HST) fifth servicing mission, the *James Webb Space Telescope* (JWST) and the Lunar Reconnaissance Orbiter (LRO) mission, the first mission begun under the Vision for Space Exploration announced by President Bush in 2004.

The projects that were under his purview ranged from small, focused efforts, to large, complex activities that rely on international or interagency collaboration and multiple contracts for success. In addition to missions in development, he had responsibility for more than 30 missions in operation.

Prior to assuming this position, he was the Director of the Applied Engineering and Technology Directorate at GSFC, where he was responsible for the management of five technical divisions with a civil service workforce of 1300, supporting all of the missions and projects described above. Over his career, Dr. Ryschkewitsch has held multiple management positions including Division Chief, Office Chief, Deputy Division Chief, Associate Branch Head, and Section Head. He began his NASA career with multiple technical management and team leadership assignments, including key contributions to the Cosmic Background Explorer (COBE) mission, the project for which Drs. Mather and Smoot were recently awarded the 2006 Nobel Prize in Physics, and the development of the Corrective Optics Space Telescope Axial Replacement (COSTAR) for the first servicing mission to repair the Hubble Space Telescope (HST).

More recently, he made significant contributions to the start-up of the NASA Engineering and Safety Center, the teams that initiated the planning for the President's Vision for Space Exploration and numerous engineering and technical management policy and process improvements for GSFC and for NASA. His technical contributions and management expertise are widely recognized and he has been awarded the NASA Exceptional Service Medal, the NASA Outstanding Leadership medal, the Robert Baumann Award for contributions to mission success, and the NASA Engineering and Safety Center Leadership Award.

Dr. Ryschkewitsch is now serving as the Chief Engineer for NASA at NASA Headquarters.

George W. Morrow (Meritorious SES Award Recipient)

Mr. Morrow became Director of Flight Projects at NASA's GSFC in September 2007. Prior to that, since March 2003, he was Deputy Director of Flight Projects, a position he took after two years in private industry. He is responsible for the execution of more than 40 space flight projects in formulation, implementation, or operation with a budget in FY06 that exceeded $2B. Between March 2003 and April 2004, he served as both the Deputy Director of Flight Projects and as the Acting Head of the Earth Science Program. He has a Bachelor's Degree in Chemical Engineering from the University of Virginia and a Masters Degree in Engineering Administration from George Washington University. He was awarded the NASA Exceptional Service Medal in 2004 and the NASA Outstanding Leadership Medal in 2006.

Continued on Page 9

Presidential Rank Award Recipients

Continued from Page 8

Mr. Morrow's attention to detail, accountability, and integrity facilitated the successful launch and on-orbit checkout of the Space Technology-5 (ST-5) mission, the Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observation (CALIPSO) and CloudSat missions, and the Geostationary Operational Environmental Satellites (GOES-N) mission during 2006. He tracked and facilitated the identification and closeout of critical issues and ensured that the project teams were vigilant and effective. Each mission faced significant challenges in the final launch campaign; however, thanks to his expertise and diligence, they were successfully launched and effective on-orbit.

NASA's ST-5 mission included three small satellites launched on the same Pegasus rocket in the same deployment structure. Final launch verification and spacecraft separation analysis identified a concern with the proximity of the three satellites to each other after deployment. As a result, a thorough re-evaluation of the analysis and a redesign of the deployment spring tensions was required. Morrow ensured that the required dynamics and mechanical experts from the GSFC Engineering Directorate were engaged in all phases of the analysis and redesign. He met with the team daily, reprioritized tasks to ensure an efficient closeout of the activity, and directed an independent review of the solutions. As a result, ST-5 was launched on schedule in March 2006, successfully completed its 90-day mission, and was decommissioned in June 2006.

Thomas J. Magner (Meritorious SES Award Recipient)

Mr. Magner is the Deputy Director of Applied Engineering and Technology at NASA's GSFC. He manages more than 1300 civil servants and approximately 800 contractors who perform engineering tasks in support of NASA's mission. The Directorate builds scientific mission spacecraft and instruments, advances technology, and provides technical oversight of contracted spaceflight hardware and software. Mr. Magner provides senior leadership in the development, implementation, and maintenance of ground facilities and infrastructure, and enhances the Center engineering workforce and institutional capabilities required to support program, project, and mission needs. During this time period, he also served as Acting Division Chief for two of the Engineering Divisions (Instrument Systems and Information Technologies), while the vacancies were being filled. Each Division has approximately 300 employees and supports major programs and projects. Mr. Magner performed these additional responsibilities in an exemplary manner, as demonstrated by each Division's impressive performance.

Mr. Magner's efforts have been essential in providing the continued leadership to a vast array of technical and management challenges. For the Directorate, he has brought a number of technical issues to closure, such as the flight use of field programmable gate arrays and electrically erasable, programmable read-only memory used by GSFC missions. He has provided new approaches, technologies, and systems to enable NASA's future robotic and human exploration endeavors. His efforts have been essential in the utilization of robotic spacecraft capabilities for NASA's new Crew Exploration Vehicle smart buyer study, demonstrating that the combined Agency resources could be united to tackle a difficult engineering problem.

When the Agency looked for a capability to integrate and drive the smart buyer study, the GSFC Integrated Design Center (IDC) and a hand-picked team of multidiscipline engineers—under his capable leadership—stepped up to the challenge. Upon the successful completion of the study, all Agency senior personnel involved in the work noted that it would not have been possible without the GSFC IDC and Engineering Team.

Dr. David S. Leckrone (Meritorious ST Award Recipient)

Dr. Leckrone has served as the Senior Project Scientist on the *Hubble Space Telescope* (HST) Project at the GSFC since February 1992. He has worked continuously on the *Hubble* program since July 1976, first as Scientific Instruments Project Scientist (1976–1987) and later as Deputy Senior Project Scientist (1987–1992). As *Hubble* Senior Project Scientist, he provides the top-level scientific leadership for all aspects of the *Hubble* Program at Goddard, including program management, spacecraft and science operations, development of new scientific instruments, and in-orbit servicing. He has primary responsibility for ensuring that the scientific requirements for the *Hubble* program are achieved and that the overall mission is scientifically successful.

Concurrent with his *Hubble* position, he served from 2003–2006 as the first Chief Scientist of the NASA Engineering and Safety Center, formed in response to the Space Shuttle *Columbia* tragedy. He has had a productive and influential career of research in astrophysics, specializing in ultraviolet stellar spectroscopy and the abundances of the chemical elements. His numerous awards include the NASA Exceptional Scientific Achievement Medal (1992), the NASA Outstanding Leadership Medal (1994), and the NESC Engineering Excellence Award (2006). In 1996, he received a Doctoral Degree *honoris causa* from the University of Lund in Sweden in recognition of his contributions to the advancement of atomic spectroscopy.

Under Dr. Leckrone's scientific leadership, the HST has developed into one of the most important scientific and technical achievements of our time. It is scientifically the most productive mission in NASA's history. It has also had the greatest positive impact on the public's awareness of science of any NASA mission. He plays a major role in all technical and policy decisions made at the HST Program Manager level, articulating a science-based viewpoint that is a primary factor in determining the Program's course of action. ■

A Message from the NASA Counterintelligence/ Counterterrorism Office

By Timothy Metz

Often, in any workplace environment, there are little-known offices scattered throughout the work area that handle very specific functions. Unless you are affected by an event that is handled by that office, you can literally spend an entire career without knowing that the office existed. Hopefully, that is not the case with the Counterintelligence/Counterterrorism (CI/CT) Office located onsite at Goddard Space Flight Center!

One of the jobs of the special agents assigned to the CI/CT Office is to prevent unauthorized attempts to obtain NASA information that is not publicly available (i.e., information that is sensitive, classified, proprietary, etc.). Another main function of the individuals assigned to this office is to identify threats posed from any organization (or individual), whose purpose is to disrupt the important task of space exploration through terrorist activities. If you have ever traveled overseas, you have undoubtedly received either an automated or personal briefing from one of the assigned agents. If you've received an unsolicited e-mail from someone asking for any type of official information (through non-official channels), chances are we've talked. This list just scratches the surface with regard to events handled by this office. If you look closely, you'll identify one common denominator—we handle CI/CT issues, along with training, for the GSFC populace.

We have all heard that knowledge is power. In the intelligence field, information is power. (This statement is also valid in the CT arena.) Our adversaries employ different techniques to obtain information that will help them gain advantages—economically or militarily—and most involve the exploitation of people. The CI/CT Office works in concert with members of the United States Intelligence Community to help protect NASA equities, resources, and locations from being targeted. Unfortunately, at times, we fall victim to the activities of these entities because we miss indicators of their efforts.

Earlier, I wrote that information is power. If we lack information, current knowledge gaps can't be closed and we could lose our ability to remain the leader in space exploration…or the gap may impact our national security! This office is dedicated to prevent this from happening, but borrowing from the title of several books and a portion of a proverb, "It takes a village."

The protection of NASA is a collaborative effort that involves everyone; however, there is a focal point to help direct the effort—the CI/CT Office!

The CI/CT function is managed by the NASA Headquarters Director of CI/CT, with a local office located in Building 8, Room N003.

There are CI/CT agents assigned to every major Center. We look forward to serving the GSFC community and continuing to help protect NASA and our great Nation!

Counterintelligence Services & Functions Available:

- Counterintelligence/Terrorism Awareness & Education Program
- Tailored Foreign Travel Briefing/Debriefing Program
- Counterintelligence and Terrorism Threat Assessments
- Counterintelligence and Counterterrorism Investigations
- Liaison with Intelligence and Law Enforcement Community
- Counterintelligence Surveys of Programs and Facilities
- Other Specialized Products and Services

What Should I Report?

Through numerous studies, we have learned that individuals exhibit certain indicators when they are involved in any type of espionage activities. These indicators are not all-inclusive nor does any one indicator mean that an individual is involved in any nefarious activities. When in doubt, you should report the following activities or any activity you have a question about:

- General Espionage Indicators
- Unsolicited Requests for Information
- Pre-Operational Terrorist Activities
- Foreign Travel/Foreign Visitors

To see what information is of CI/CT interest, please visit: http://securitydivision.gsfc.nasa.gov/index.cfm?topic=programs.ci.indicators.espionage

Goddard Special Event Photos

Photo credit: Debbie McCallum

Caption: Ladies getting glamorous with jewelry at the 2007 GEWA Craft Fair.

Photo credit: Debbie McCallum

Caption: The "Candle Lady" entertains customers at the 2007 GEWA Craft Fair.

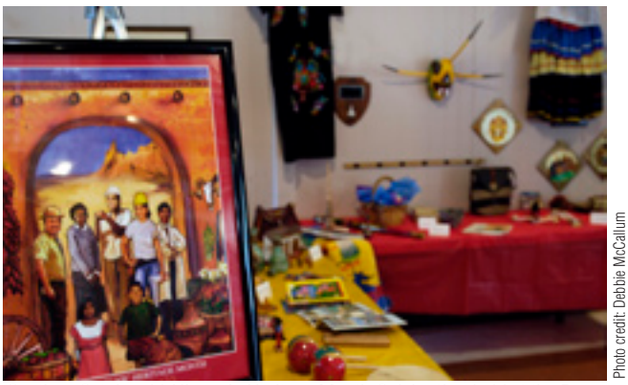

Photo credit: Debbie McCallum

Caption: October 11 Hispanic Heritage Month Celebration held at the Barney and Bea Recreation Center.

Photo credit: Debbie McCallum

Caption: Mary Collins marking the places people came from on a map of Latin America during a Hispanic Heritage celebration.

Photo credit: Debbie McCallum

Caption: Dr. Mather giving the 2007 CFC Kickoff speech.

Photo credit: Debbie McCallum

Caption: "Fidos for Freedom" service dog demonstration at the 2007 CFC Kickoff.

In Memoriam: John H. McElroy, Ph.D., Former Deputy Director

Taken from the University of Texas Arlington Alumni Web site

Dr. John H. McElroy, engineer, educator, scientist, born June 27, 1936, died of a heart attack in his home in Las Vegas, Nevada on September 14. He earned a Bachelor of Science degree in Electrical Engineering from the University of Texas at Austin and Master's and Doctoral degrees from the Catholic University of America.

Dr. McElroy began a long and illustrious career with NASA in 1966 at the Goddard Space Flight Center, where he directed research on laser communication systems, tracking and radiometry, and advanced satellite communications technology. From 1980 to 1982, he was Deputy Director of Goddard and later served as Director of Communications and Information Systems Programs at NASA's Office of Applications. Dr. McElroy continued his Government service as the Assistant Administrator for Satellites for the National Oceanic and Atmospheric Administration (NOAA).

After leaving NOAA, he joined Hughes Communications as Vice President for Technology. During this time, Dr. McElroy was also the Senior Editor of *Space Science and Application*s, a publication of the Institute of Electrical and Electronics Engineers, Aerospace and Electronic Systems Society. From 1987 to 1996, Dr. McElroy served as dean of the College of Engineering at The University of Texas at Arlington, overseeing a sustained period of growth in both student enrollment and research and teaching facilities. He then served as UT Arlington's Vice Provost for Research, and Dean of Graduate Studies from 1996 to 1997. He then returned to the classroom, teaching electrical and industrial engineering courses until his retirement in May of 2000.

A recognized authority of space sciences, Dr. McElroy was frequently called upon to serve as an advisor on investigatory committees and commissions. He was a member of the Space Studies Board of the National Academies and the Advisory Committee on the Future of U.S. Space Programs and co-authored the Center for Strategic and International Studies report "A More Effective Civil Space Program" with co-chair Brent Scowcroft.

Dr. McElroy was recognized by several professional organizations for his technical knowledge and service.

He was a Fellow of the Institute of Electrical and Electronics Engineers, the American Institute of Aeronautics and Astronautics, and the Washington Academy of Sciences and a member of the National Academy of Engineering, which honored his development and applications of laser technology to space-based geodesy, atmospheric science, and communications. In addition, he was presented with a NASA First Space Shuttle Flight Achievement Award and Medallion, a NASA *Apollo* Achievement Award and Medallion, a Silver Medallion from the Brazilian Institute for Space Research, a Bronze Medallion from the Soviet Merchant Marine, and the German Space Agency Medallion (for founding and chairing the International Committee on Earth Observation Satellites).

He is survived by Ellie McElroy, his wife for 51 years. His remains will be interred at the Veterans Memorial Cemetery in Boulder City, Nevada. ■