



**A Flight Projects Directorate Quarterly Publication  
A Newsletter Published for Code 400 Employees**

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## IRIS is Up and 'Sunning'

New insights into the Sun are just around the corner, thanks to the successful launch of the Interface Region Imaging Spectrograph (IRIS). The Small Explorers (SMEX) satellite was successfully launched on June 27, 2013. The Orbital Pegasus XL rocket placed the observatory in a near perfect orbit, which will minimize the eclipse period and maximize the science return.

*(IRIS continued on page 4)*

## Landsat 8 Satellite Begins Watch

With a ceremonial handover of actual keys jangling on a keyring, NASA officials transferred operational control of the Landsat 8 satellite to the U.S. Geological Survey (USGS) on May 30th.

The ceremony, held at the USGS Earth Resources Observation and Science Center in Sioux Falls, South Dakota, featured officials from both agencies, as well as

*(Landsat continued on page 6)*

## Science & Planetary Operations Control Center

About the middle of last year, GSFC's Science & Planetary Operations Control Center (SPOCC) in Building 32 was declared "Officially Open for Business." This innovative facility is now providing its first operational support to the Sample Analysis at Mars (SAM) instrument which landed on the Red Planet aboard the Curiosity rover in August 2012, and is

*(SPOCC continued on page 8)*

## Message from the Director Of



As I write this message, the month is ready to turn from July to August, the end of summer is within view, and parents are wondering how they will get all that back-to-school shopping done. Hard to believe! I hope each of you has had the opportunity for some down time away from work or will have the opportunity in the next couple of weeks. Our mission teams have been extremely busy with launch site and launch and checkout activities as well as completion of test programs in preparation for shipments to launch sites.

Since my last message, the Interface Region Imaging Spectrograph (IRIS) was successfully launched on June 27 and on-orbit check-out and first light were flawlessly executed. Congratulations to the entire IRIS team!

The Lunar Atmosphere and Dust Environment Explorer (LADEE) is proceeding well through launch site integration activities. LADEE is scheduled for launch on a Minotaur-V from the Wallops Flight Facility (WFF) on September 6 at 11:27 p.m. Not only will it be the first planetary launch from WFF but this night-time launch will be visible throughout the Washington/Baltimore metropolitan areas.

The Mars Atmosphere and Volatile Evolution Mission (MAVEN) recently completed a successful pre-ship review and will be transported via Air Force C-17 from the Lockheed-Martin Waterton, CO Facility to Kennedy Space Center (KSC) on August 2 to begin the launch site flow. MAVEN is GSFC's first Mars mission and will launch on November 18 from Cape Canaveral Air Force Station (CCAFS) on an ATLAS-V.

Similarly, the Global Precipitation Mission recently completed environmental test and is preparing for an early November shipment to Japan for launch site integration to support a February 2014 launch on a JAXA HIIA.

The Tracking and Data Relay Satellite (TDRS) team did not miss a beat following the launch of TDRS-K last January. TDRS-K on-orbit acceptance testing is nearing completion and TDRS-L is in storage. TDRS-L will be taken out of storage this fall to support a January 2014 launch from CCAFS on an ATLAS-V.

Last but certainly not least, the Total Solar Irradiance Calibration Transfer Experiment is integrated to its host spacecraft, Air Force Space Test Program-3, and awaiting a late calendar year launch from WFF.

Let me take this moment as well to thank all those who nominated deserving employees for the 2013 Peer Awards and to those who were nominated. And congratulations to all the winners! Please read about all of them in this issue of The Critical Path.

So, it's obvious that it's an extremely busy time within the Flight Projects Directorate and at GSFC as a whole. Please provide these teams with all the support you can to ensure success. It is really quite amazing to me that we are able to accomplish all that we are in spite of Sequestration impacts and travel, training, and awards cutbacks. This is a tribute to the dedication and personal sacrifice of the entire GSFC Civil Servant and contractor workforce. I thank and commend you all!

**George W. Morrow**  
**Director of Flight Projects**  
[george.w.morrow@nasa.gov](mailto:george.w.morrow@nasa.gov)



## PERSONALITY TINTYPES



### Kevin McCarthy



Kevin is the Deputy Project Manager for the Space Network Ground System Sustainment (SGSS) Project. He has held this position since July 2012.

**Born:** Washington, DC

#### **Education:**

BS, Computer Science, University of Maryland University College, 1999

Graduate Certificate in Space Operations, Capitol College, 1992

Master's in Public Administration (MPA), University of South Florida, 1989

BA, Political Science, University of South Florida, 1987

#### **Life at Goddard**

Since earning his MPA, Kevin has worked for NASA, first as a Presidential Management Intern at NASA Headquarters, and since 1995 at Goddard. Kevin has spent his entire NASA career in the Networks, except for 17 months with the POES/MetOp flight project. At Goddard, Kevin has held a number of diverse administrative and technical positions: Agreements Manager; Procurement Development Team Lead for the Near Earth Networks (NENS) solicitation; NENS COR; a 2-month detail to FEMA post hurricane Katrina as a lead COR for Louisiana (Critical Path, Spring 2006); Study Manager; NASA Stations Manager for the Near Earth Network; MetOp Mission Manager, and now as the SGSS Deputy.

*(McCarthy Tintype continued on page 5)*

### Karen Moe



Karen is the Technology Development Manager for advanced information systems within the Earth Science Technology Office since 1999. ESTO funds and manages a broad range of technologies for observing and understanding Earth systems. Karen's work

focuses on sensor webs, automation, interoperability and other information technologies needed to acquire, process, analyze, manage and exploit Earth observations.

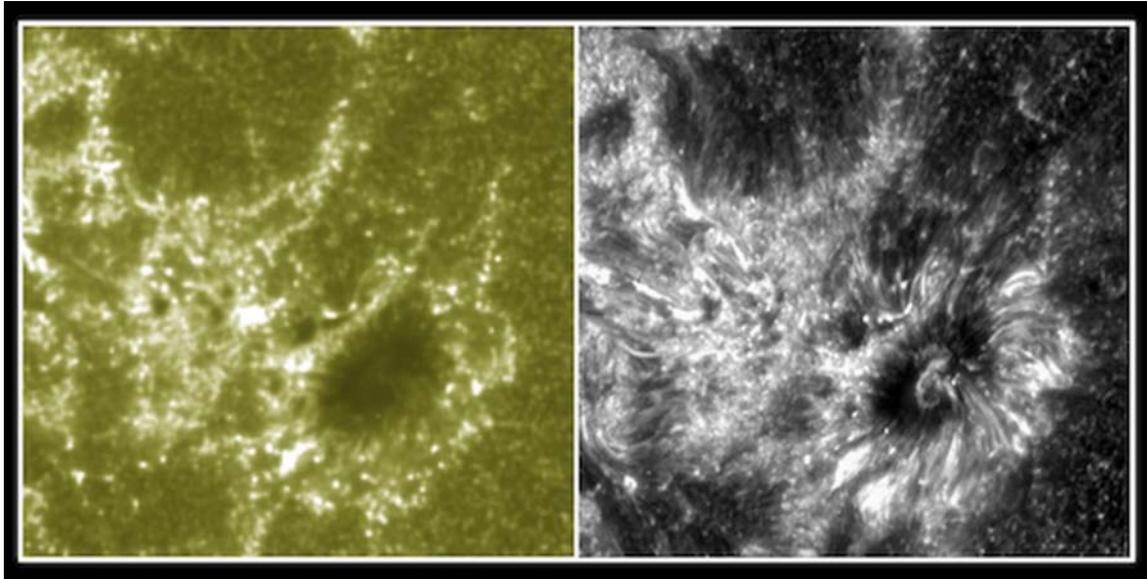
In the late 1990s the NASA Earth science community embarked on an effort to articulate a vision for leveraging Earth observations for the 21<sup>st</sup> century. One promising development was the sensor web concept, enabled by the fast maturation of the World Wide Web. Karen was instrumental in developing the sensor web technology program in ESTO. One project, the GSFC EO-1 sensor web, now supports international initiatives to advance the use of satellites for disasters in cooperation with the Committee on Earth Observing Satellites (CEOS). Karen leads a CEOS team to develop the Global Earth Observing System of Systems (GEOSS) architecture for disasters management, leveraging sensor webs and other emerging technologies to achieve the societal benefit goals of GEOSS.

Technology infusion has long been a special interest and Karen has led the tech infusion working group for Goddard's ESDIS project for several years. The group assessed the barriers to technology adoption and established tech infusion processes to help

*(Moe Tintype continued on page 20)*

*(IRIS continued from page 1)*

The in-orbit checkout period has been proceeding as planned. On July 17, the instrument door was opened and allowed the observatory to almost immediately begin collecting images and spectra.



*These two images show a section of the sun as seen by IRIS on the right and NASA's Solar Dynamics Observatory (SDO) on the left.*

*(Image Credit: NASA/SDO/IRIS)*

The data and images produced by IRIS have heliophysicists excited, as the observatory provides unprecedented detail of the enigmatic interface region of the Sun. The interface region is located between the Sun's visible surface, or photosphere, and its outer-atmosphere, the corona.

IRIS is planned as a two-year mission, seeking to address the following scientific questions:

- Which types of non-thermal energy dominate in the chromosphere and beyond?
- How does the chromosphere regulate mass and energy supply to the corona and heliosphere?
- How do magnetic flux and matter rise through the lower atmosphere, and what role does flux emergence play in flares and mass ejections?

The IRIS instrument consists of a 20 cm telescope, with output split between a slit-jaw imager and a UV spectrograph. This allows the produced far-UV and near-UV spectra to be co-aligned with the high-resolution context imaging. IRIS' data rate of ~0.7 Mbit/s provides high cadence image and spectra to enable insights required to better understand the complexities of the interface region.

Additionally, IRIS will be operational at the same time as several other Sun dedicated missions, including SDO and Hinode, contributing to a solar observing constellation monitoring different elements of our home star.

**Eric E. Ianson**  
**IRIS Mission Manager / Code 460 / HQ**

## Yes, There Was Also an IRIS in 1971

Some 42 years ago, before many Goddard employees were even born, the Goddard Infrared Interferometer Spectrometer (IRIS) experiment package aboard Mariner 9 commenced orbiting around Mars in November 1971. The IRIS experiment was designed to obtain a temperature profile of the Martian atmosphere and determine its composition as well as Martian surface material. The experiment was led by Dr. Rudolf Hanel of the Laboratory for Planetary Atmospheres.

### **The (Ancient) Editor**

*(McCarthy Tiintype continued from page 3)*

SGSS is a large and long overdue upgrade to the Space Network ground terminals at White Sands, New Mexico and Guam. The SGSS will also provision the ground station electronics for a new ground terminal at Blossom Point, Maryland. The SGSS Project will replace all of the decades-old Space Network (SN) ground terminal communication electronics with new, modular, mostly commercially available equipment. The new SN systems will also enable a significant reduction in the cost of maintenance and operations while providing safe, reliable and adaptable services for SN customers for the next several decades while simultaneously enabling future missions to take advantage of expanded services and increased data rate capabilities. The SGSS architecture is an application of service-oriented design techniques resulting in a low-technical risk architecture using “state-of-the-practice” technologies.

Kevin feels particularly lucky to have traveled to and worked on four continents for NASA. This included Baikonur, Kazakhstan for the MetOp-B launch campaign; Svalbard, Norway and Fairbanks, Alaska for the NEN; and two and half months at McMurdo Station, Antarctica for the EUMETSAT MetOp spacecraft required upgrade to the NEN McMurdo Ground Station. When you hear about the “European weather model” for the hurricane and tropical storm prediction on TV, Kevin helped support the data collection component. He is also an Army veteran and is involved in the Goddard Veteran’s Affairs Committee.

### **Family**

Kevin is married to Ruth Wright, formerly a Contracting Officer at Goddard. He proposed to Ruth in Moscow, Russia in 2007. He has two children Jay (19) and Sarah (15) from a previous marriage. Kevin and Ruth live in the Maritime Republic of Eastport. They parent two demanding cats together.

### **Life Outside of Work**

Kevin is an avid reader of military history, particularly World War II, and is trying to learn how to sail on his wife’s boat. Kevin and Ruth both love to travel and get “lost” on foot in new cities.

*(Landsat continued from page 1)*

elected officials, touting the newest member of the Landsat program and its improved remote sensing abilities.

“With all respect to those older siblings, I will claim today – with some admitted bias – that Landsat 8 will prove to be the best Landsat satellite ever launched,” LDCM project scientist Jim Irons said at the ceremony, noting improvements to the satellite’s two instruments. “Those technical advancements will allow us to better characterize the cover across the landscape, and be more sensitive to change over time.”

Goddard Space Flight Center oversaw the development, construction, launch and the on-orbit checkout period for Landsat 8. Goddard also designed, built and tested one of Landsat 8's two instruments, the Thermal Infrared Sensor (TIRS). A late addition to the mission, TIRS measures two thermal bands that are integral to Landsat’s agricultural applications. Using existing technology developed at Goddard, the TIRS team built the instrument on an accelerated 3-year schedule.



LDCM Project Manager, Ken Schwer (shown at right above handing the keyring to Jim Nelson of USGS) announced the successful handover: “The LDCM team just successfully completed the Mission Transition Review and turned the keys over to USGS - she is now Landsat 8! I’m very proud of my extended team!”

*(Landsat continued on page 7)*

*(Landsat continued from page 6)*

The Sioux Falls event marked the beginning of the satellite's mission to extend an unparalleled four-decade record of monitoring Earth's landscape from space. Landsat 8 is the latest in the Landsat series of remote-sensing satellites, which have been providing global coverage of landscape changes on Earth since 1972. The Landsat program is a joint effort between NASA and USGS.

NASA launched the satellite February 11 as the Landsat Data Continuity Mission (LDCM). Since then, NASA mission engineers and scientists, with USGS collaboration, have been putting the satellite through its paces -- steering it into its orbit, calibrating the detectors, and collecting test images. Now fully mission-certified, the satellite is under USGS operational control.

"Landsat is a centerpiece of NASA's Earth Science program," said NASA Administrator Charles Bolden in Washington. "Landsat 8 carries on a long tradition of Landsat satellites that for more than 40 years have helped us learn how Earth works, to understand how humans are affecting it and to make wiser decisions as stewards of this planet."

Starting May 30, USGS specialists have collected at least 400 Landsat 8 scenes every day from around the world to be processed and archived at the USGS EROS center. The newest satellite joins Landsat 7, which launched in 1999 and continues to collect images. Since 2008, USGS has provided more than 11 million current and historical Landsat images free of charge to users over the Internet.

"We are very pleased to work with NASA for the good of science and the American people," said U.S. Interior Secretary Sally Jewell in Washington. "The Landsat program allows us all to have a common, easily accessible view of our planet. This is the starting point for a shared understanding of the environmental challenges we face."

Remote-sensing satellites such as the Landsat series help scientists observe the world beyond the power of human sight, monitor changes to the land that may have natural or human causes, and detect critical trends in the conditions of natural resources.

The 41-year Landsat record provides global coverage at a scale that impartially documents natural processes such as volcanic eruptions, glacial retreat and forest fires and shows large-scale human activities such as expanding cities, crop irrigation and forest clear-cuts. The Landsat Program is a sustained effort by the United States to provide direct societal benefits across a wide range of human endeavors including human and environmental health, energy and water management, urban planning, disaster recovery, and agriculture.

With Landsat 8 circling Earth 14 times a day, and in combination with Landsat 7, researchers will be able to use an improved frequency of data from both satellites. The two observation instruments aboard Landsat 8 feature improvements over their earlier counterparts while collecting information that is compatible with 41 years of land images from previous Landsat satellites.

**Kate Ramsayer**  
**Writer/Outreach Specialist / Code 130, supporting Code 420**

*(SPOCC continued from page 1)*

actively participating in the testing of other spacecraft and instruments as the facility gears up to support a range of new missions in the near future.

The SPOCC was developed as a collaborative venture among Codes 400, 500, and 600. This new multi-mission operations center is located within the Goddard Earth Sciences Data and Information Services Center (GES-DISC) control room that was recently reconfigured for the express purpose of providing a physically robust, low-cost facility for hosting ground system hardware, software, and staff to support new planetary and lunar mission operations at GSFC. A unique confluence of events enabled the SPOCC to be developed quickly and at low cost, including the imminent availability of a vacant facility with significant existing infrastructure, and multiple planetary and lunar missions with similar operations requirements seeking facility space at the same time.

Development of the SPOCC operations concept and for utilizing the GES-DISC facility began in 2006 as part of the Phase A Concept Study that a GSFC team was performing for the Vesper mission to Venus, a cost-capped mission proposal to NASA's Discovery Program 2006 Announcement of Opportunity (AO). Vesper unfortunately was not selected for implementation at that time, though the team plans to re-propose. But the 2008 selection of the Mars Atmosphere and Volatile Evolution (MAVEN) mission as NASA's second Mars Scout along with the earlier selection of SAM to fly as a principal payload on the Mars Science Laboratory (later named the Curiosity rover) opened the possibility of co-hosting operations of two missions to the same planet within the same facility at GSFC.

So a team composed of personnel supporting MAVEN and SAM along with the Building 32 Utilities Working Group (UWG) and members of the GSFC Global Change Data Center began collaborating on the development of plans to utilize the newly available facility. Instrument and Science Operations personnel from the Lunar Atmosphere and Dust Environment Explorer (LADEE) also joined the team and preliminary floor utilization drawings were developed to accommodate the set of prospective tenant missions. The initial plan involved installing the ground system hardware to support the missions on top of excess tables and desks within the facility's large open room. As plans began to mature and mission personnel refined their requirements and committed to utilize the facility, it became obvious that separate, individual console areas would need to be created and that they would need to be reconfigurable in order to expand options for the future and recruit additional missions. Recruiting a greater number of missions would maximize utilization of the facility while reducing facility charges to each mission through increased cost sharing.

Personnel supporting the various missions deployed skeleton systems to allow people to spend time working in the room in order to evaluate the space, configuration, and feel of the facility from a human standpoint. It was soon realized that deploying large numbers of workstations and servers in racks within the main operations room would overwhelm the space from a standpoint of noise and eventually temperature, and that separate locations for personnel and equipment would be required if more than two or three missions were ever to deploy there. So a "server cage" to allow isolation of SPOCC equipment from other hardware was constructed in the climate-controlled computer room within the adjacent Global Change Data Center. A low-cost plan to outfit the individual operations rooms within the main SPOCC facility was also developed.

*(SPOCC continued on page 9)*

(SPOCC continued from page 8)

Product information for consoles and divider partitions was solicited from prospective vendors and was reviewed and agreed upon by the SPOCC tenant missions. A “field trip” was then taken by mission personnel and the Building 32 UWG to the Washington, DC showroom of a vendor who had previously supplied similar products for other control centers in Building 32. Final details of the room configuration were determined and styles and colors of materials were selected, and the entire room reconfiguration plan was evaluated with respect to safety and environmental considerations. All of these activities were required to be completed within a very tight calendar window in order to ensure readiness to support SAM, and the team worked closely with the GSFC Facilities Management Division (FMD) to meet the aggressive schedule.

The facility is now complete and fully functional, and currently features four main operations rooms; two conference rooms for use by SPOCC tenant mission personnel, both equipped with a Polycom teleconferencing phone and one with a large screen monitor for displays and presentations; a foyer area with various amenities such as copier and fax, and the climate-controlled equipment room for deployment of racks/servers. Communication via NASA mission and data networks (Restricted IO-Net, EBnet) is supported, as is hardline and wireless access to the GSFC Center Network Environment (CNE). Access to the Sciences and Exploration Directorate (SED) Science and Engineering Network (SEN) is currently being implemented to accommodate missions that have higher bandwidth requirements than the CNE supports.

## SPOCC Facility in GSFC Building 32, Room C101C

*before .....*



*under construction .....*



*to the present*

*and after .....*



SAM Instrument Ops Center



SPOCC Server Room



SPOCC Conference Room

*and into the future .....*



LADEE Science Ops Center



MAVEN  
backup Mission Support Area

(SPOCC continued on page 10)

*(SPOCC continued from page 9)*

The facility and associated Building 32 infrastructure supply clean power and leverage a backup Power Distribution Unit (PDU) as well as an Uninterruptible Power Supply (UPS) that provides emergency battery power in the event of a major outage, which will allow systems to continue operating in the facility until auto-switchover to backup power is produced via generators in GSFC Building 31.

The SPOCC is currently supporting operations of the SAM instrument aboard the Curiosity rover and has deployed systems for the Lunar Atmosphere and Dust Environment Explorer (LADEE) Science Operations Center (SOC) and the LADEE Neutral Mass Spectrometer (NMS), and will also host remote display terminals supporting the LADEE Lunar Laser Communications Demonstration (LLCD) payload provided by the Massachusetts Institute of Technology (MIT) Lincoln Laboratory. The SPOCC is also hosting the Neutral Gas and Ion Mass Spectrometer (NGIMS) Instrument Team Facility (ITF) and the backup Mission Support Area (bMSA) for the Mars Atmosphere and Volatile Evolution (MAVEN) mission. LADEE and MAVEN both launch later this year: LADEE has already been shipped to its launch site at the Wallops Flight Facility and is undergoing final testing and launch vehicle integration, and MAVEN is on schedule to ship to the Kennedy Space Center (KSC) in early August. The SPOCC will also host backup command & control systems for the Magnetospheric Multiscale (MMS) mission. A Memorandum of Agreement (MOA) for the SPOCC has been developed that describes the accommodations provided by the facility to tenant missions and the obligations of tenant missions to the SPOCC. All of the missions that comprise the “first generation” of SPOCC tenants are signatories to the MOA.

Planning is underway for the SPOCC to host operations centers supporting both Earth and Space Science missions in addition to NASA’s more far-flung progeny at the moon and Mars. The MMS mission that has already committed to using the SPOCC features four satellites flying in formation in highly elliptical Earth orbits, and agreement has been reached with the Ice, Cloud, and land Elevation Satellite (ICESat-2) mission to host the Advanced Topographic Laser Altimeter System (ATLAS) Instrument Support Facility (ISF) beginning in 2014. The SPOCC will also host the Science and Mission Operations Center (SMOC) for the Neutron star Interior Composition Explorer (NICER) Mission of Opportunity payload slated to fly aboard the International Space Station (ISS), and discussions are in progress with personnel from the Deep Space Climate Observatory (DSCOVR) mission for hosting science operations for the Triana-legacy instruments. DSCOVR will operate at the Sun-Earth L1 Lagrange point.

The SPOCC team welcomes discussions with new mission and proposal teams and seeks to build a sustaining customer base for the facility. While plans call for several of the missions currently deploying in the SPOCC to terminate their operations by 2015, planning is also underway to transition the SPOCC to an even more “multi-mission” configuration through increased use of virtual machines and by performing minor facility reconfigurations to be able to accommodate even larger numbers of mission tenants in the future. Increasing the number of missions will increase cost sharing and reduce even further the cost to each individual mission for operating in the SPOCC.

For more information regarding the SPOCC contact Bob Kozon at [bob.kozon@nasa.gov](mailto:bob.kozon@nasa.gov).

**Bob Kozon**  
**SPOCC Mission Integration Manager / Code 581**

## Flight Projects Development Program (FPDP)

The Flight Projects Directorate (FPD) has collaborated with the Office of Human Capital Management (OHCM) to develop the Flight Projects Development Program (FPDP). The FPDP is specifically designed to develop NASA *flight* projects management personnel utilizing the latest management development concepts, methods and tools. FPDP is the successor program to Project Management Development Emprise (PMDE), a hugely successful program that produced dozens of outstanding project management personnel over the past 23 years. Howard Ottenstein has served as the PMDE Program Manager for the length of the program and has done an exceptional job providing leadership, management and mentoring.

FPDP is a two-year program designed to accelerate the growth of highly-motivated technical and resources employees in order to meet FPD project management requirements. The current environment is significantly different than the environment 20+ years ago. FPDP will prepare our future project management personnel to meet the specialized, diverse and challenging project management requirements of today's flight projects.

Components of the FPDP include a rigorous curriculum, detail work assignments, multi-faceted mentoring, a Capstone Project that will address a real world FPD problem as well as other applicable career development opportunities. All training and development opportunities are designed to develop well-rounded, versatile and effective project management personnel.

We anticipate that OHCM will post the FPDP competitive job announcement shortly after Labor Day. The announcement will describe eligibility requirements, along with specifics about the application process. Based on the results of the OHCM referral process, the FPDP Governance Board will interview and select participants. Once accepted into the program, selectees will become permanent FPD employees and will be assigned work details providing the necessary experience to fill individual "gaps" identified during the assessment processes.

Additional information concerning FPDP will be provided at various outreach and communications events over the remainder of this summer. There will be a series of "brown bags" starting mid-August for all interested participants. Also, we are in the process of developing an FPDP website to provide additional information and program status. When the website is available, I will send out a Directorate-wide announcement with the website location information.

**Cecilia Allen Czarnecki,  
FPDP Program Manager / Code 400**

## Neither rain, nor snow, nor sleet, nor loss of power prevents the ESDIS Project from holding a scheduled meeting....

The ESDIS Project organized a meeting for April 10<sup>th</sup> and 11<sup>th</sup> at the United States Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center. The purpose was to present operations concepts for a new Data Visualization System (the Global Image Browse System – GIBS), and receive feedback and input on future directions from the ESDIS Data Centers. Participants were invited from the Physical Oceanography Data Center at JPL, the Alaska Satellite Facility in Fairbanks, Alaska, the Land Processes Data Center at EROS, and the National Snow and Ice Data Center in Boulder, Colorado. The central location of EROS in Sioux Falls was selected for the meeting. While we at Goddard were experiencing balmy spring weather, with unusually warm temperatures approaching 90 degrees on April 10, the middle of the country was getting hit with a severe winter-weather storm. Folks arriving in South Dakota from Alaska, Colorado, and Maryland were faced with extreme winds, a layer of ice, covered by a layer of snow, eventually covered by more ice, and several more inches of snow! Some of the folks from California did not even make the meeting – their flight was cancelled!

As a result of the severe weather conditions, and fluctuating power, EROS was closed on April 10 and 11<sup>th</sup>, a rare occurrence. The resourceful and determined team did not let this deter them. Tom Sohre, the Land Processes Data Center manager, arranged for access to a conference room in the Sioux Falls Public Library.



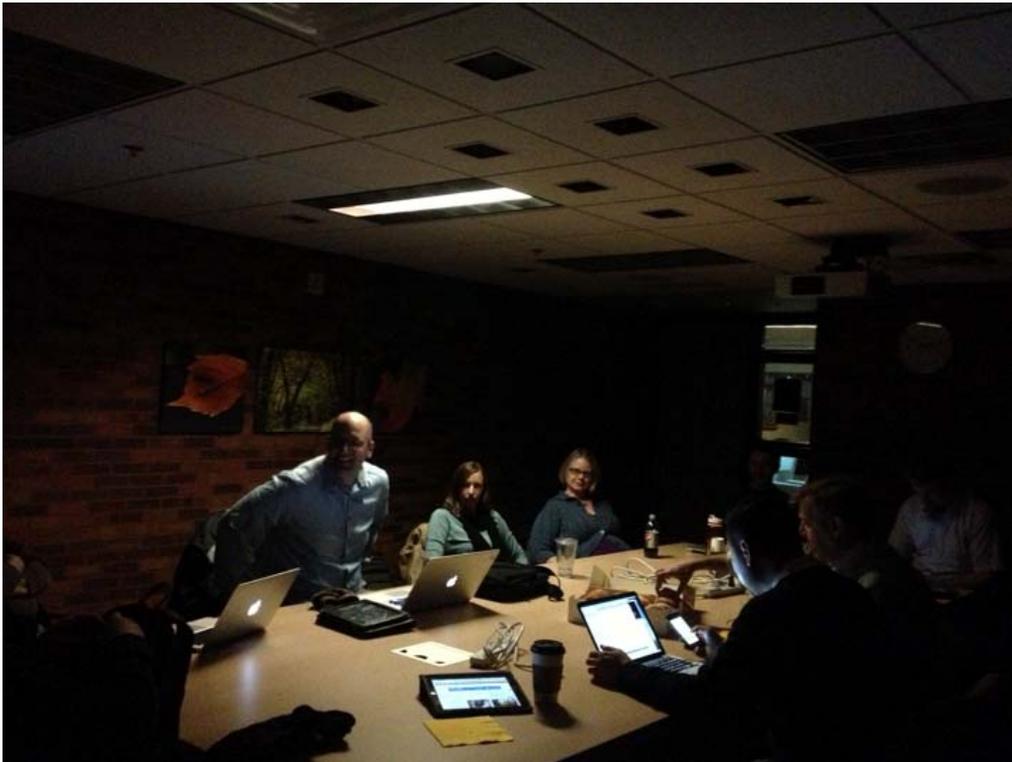
*ESDIS Project Team at work in Sioux Falls, South Dakota*

*(ESDIS continued on page 13)*

*(ESDIS continued from page 12)*

Despite the hazardous driving conditions, the team convened and got down to work. Participants included Kevin Murphy, Ryan Boller, Drew Kittel, Matt Cechini, and Katie Baynes from Goddard, Tom Sohre, Chris Doescher and David Meyer from EROS, Scott Arko from Alaska, Erik Jasiak and Lisa Booker from the National Snow and Ice Data Center and Thomas Huang and Charles Thompson from JPL.

Then the power went out..... Using only emergency lighting and the glow of their laptops, the EOSDIS team was undeterred. They worked through their entire agenda, and a very productive meeting was reported by all.



*ESDIS Team still at work after the lights went out*

**Dawn R.Lowe**  
**ESDIS Project Manager / Code 423**

### **Top Space Station Research Award of the Year to Code 408**

The top Space Station Research Awards of the Year – Technology was awarded to the Robotic Refueling Mission (RRM) Phase 1. The RRM Project Manager, Jill McGuire (408), accepted the award at the second annual International Space Station (ISS) Research and Development Conference. The Rendezvous and Proximity Operations (RPO) and Robotics teams performed a successful autonomous grapple plunge, demonstrating the first successful integration of the Restore RPO and Robotic subsystems. This event marks a key milestone towards our End-to-End Autonomous Grapple Tests, which will demonstrate Technology Readiness Level 6 (TRL 6) of the Restore Payload design concept.

## New Business News

### - An Update on FPD “New Business” Activities -

#### *Looking at the recent past...*

The FPD’s New Business “Employee Life Cycle” Continues – In my last article I shared the final results for the 2011 Explorer AO Step-2 Transiting Exo-planet Survey Satellite (TESS) and Atmosphere-Space Transition Region Explorer (ASTRE) capture efforts.



With these capture teams ready to transition out of the new business environment, the FPD recently completed the activities defined in the third and final phase of its *New Business Employee Life Cycle*. As a result, all capture team members have now been assigned to new positions within the Directorate. In some cases the employee has returned to their

previous job, in other cases they have asked to join another capture team and remain assigned to the 401/Advance Concepts and Formulation Office (ACFO), while others have been assigned to a brand new project team. No matter where their career path has taken them, in all cases each employee has been afforded a chance to consolidate their learning, share their experiences with other practitioners, provide ideas to the ACFO senior management for enhancing future efforts to define fully execute-able projects, as well as leverage the many tangible benefits resulting from a larger, more diverse professional network wherever their careers may take them.

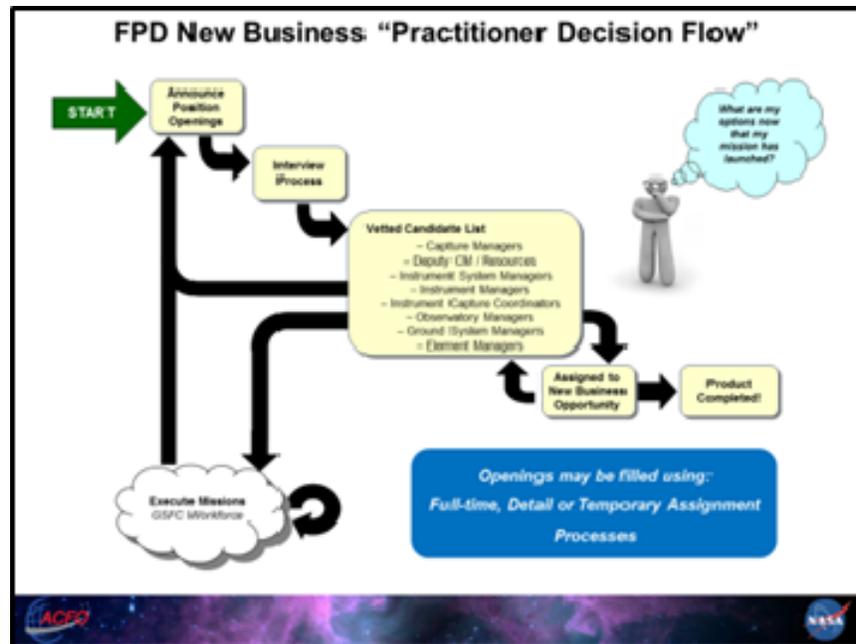
#### *Looking at the present...*

ANNOUNCING: FPD New Business Opportunities Available – The ACFO continues to work very closely with the management of AETD’s 505/Instrument Management & Systems Office. This work has focused on ensuring that Code 505 in-house instrument practitioners are kept abreast of news pertaining to the consolidation of instrument

*(New Business continued on page 15)*

(New Business continued from page 14)

management into FPD and that each member of this community is assigned exciting work consistent with their current position. That said, there are more new business opportunities than there are people to fill them; a common occurrence in new business. Therefore, as the Champion for FPD New Business, the ACFO will be posting competitive ads in order to fill these vacancies. This will be done consistent with the



Directorate's model for providing the workforce with opportunities to obtain experience in the competitive modes of NASA Life Cycle "Pre-Phase A" and "Phase A". If this is experience that will aid in increasing proficiency in project management or resources management, employees should be on the lookout for these announcements.

Earth Venture Class - Instruments (EV-I) – The Science Mission Directorate's (SMD's) Earth Science Division manages the Earth Venture (EV) Class competitive process through the Earth System Science Pathfinder program office. The EV activity has three opportunities occurring regularly and span: instruments; sub-orbital (e.g., balloons, sounding rockets, etc.) campaigns and free-flier space flight missions. The Earth science community has just learned the dates for next EV-I cycle, and capture teams are being formed now. Members of the community who are interested in participating on one of these capture teams should be on the lookout for a series of ads that will be posted very soon. If participation on an Earth science instrument project team is on your career pathway then pay serious attention to the opportunities coming up.

Mars 2020 Instrument Competition – The SMD's Planetary Sciences Division will be releasing an opportunity to propose instruments for a future mission to the "Red Planet." Instrument capture teams are being ramped up now in anticipation of this opportunity. If participation on a planetary instrument project team is on your career pathway then be sure to keep an eye out for the opportunities coming up in this area.

(New Business continued on page 16)

(New Business continued from page 15)



### ***Looking to the future...***

The Opportunity Forecast – The end of FY13 now looms large as the summer heat begins to abate. The Center's Lines of Business teams continue their keen interest in the planning taking place at NASA/HQ with the goal of ensuring that the Center's new business portfolio is as robust as it can be. We will be discussing this more in the next edition of *The Critical Path*.

### ***Of Special Note...Congratulations to ACFO Summer Intern Jonathan Flugel***

A Winner of the "2013 John Mather Nobel Scholarship" - The John Mather Nobel Scholarship Program was established in 2008 by the John and Jane Mather Foundation for Science and the Arts. The program is open to current GSFC-based undergraduate and graduate student interns. Each year the program awards travel allowances towards the cost of presenting research papers at professional conferences. Applicants must have demonstrated high academic achievement, have a strong interest in space and GSFC, be a rising undergraduate junior, senior or graduate student, and be currently holding a Goddard-based research internship. Selected students are recognized as John Mather Nobel Scholars and receive a generous travel allowance towards the cost of presenting research papers at professional conferences. Recipients have the opportunity to meet with Dr. Mather and other distinguished individuals.



*John Mather (left) with Jonathan Flugel*

Upon joining the ACFO on June 3<sup>rd</sup> as a summer intern, Jonathan Flugel was assigned the task of designing, building, testing and documenting a financial worksheet tool for handling the arduous task of converting project costs between Real Year (RY) and Fixed Fiscal Year (FFY) dollars, as well as spreading that cost across FYs. He completed the task in less than 3 weeks despite needing to learn new Visual Basic programming constructs and how to imbed them into the spreadsheet application.

(New Business continued on page 17)

*(New Business continued from page 16)*

With the initial version complete, Jonathan has been spending time going around the Center to meet with members of the resources community so he can discuss the nature of the task being automated, share the current version of his tool and solicit constructive feedback from the community on how to improve it. When asked what drove him to complete his project so quickly Jonathan shared, *“I want to make sure that the best possible product is delivered to ensure that it not only meets requirements of the users, but so that it also becomes a valuable tool that extends beyond the scope of my internship.”* It will, Jonathan...it certainly will!

For more information about Jonathan’s RY versus FFY cost spreading tool please contact Stephanie Gray, ACFO Group Lead for the Project Resources Formulation Group, by phone at 6-6486 or via email at <stephanie.a.gray@nasa.gov>. Through his efforts, Jonathan has made a difference.

Regards,

**Bob Menrad / Code 401**  
**Associate Director for Formulation**

## May Be Gold in Them Thar Hills (and in Outer Space)

The Associated Press reports that solar system’s gold may come from colliding neutron stars. And where is the evidence coming from? From two Goddard successes: the Swift and Hubble missions. The former reported observations of a gamma-ray burst in June that was caused by the collision of neutron stars, combined with data from ground observations and the Hubble telescope, providing evidence that all the gold on Earth was forged from ancient collisions of dead stars. A most interesting theory, as yet unconfirmed.

**The Editor**

## Knowledge Management Corner

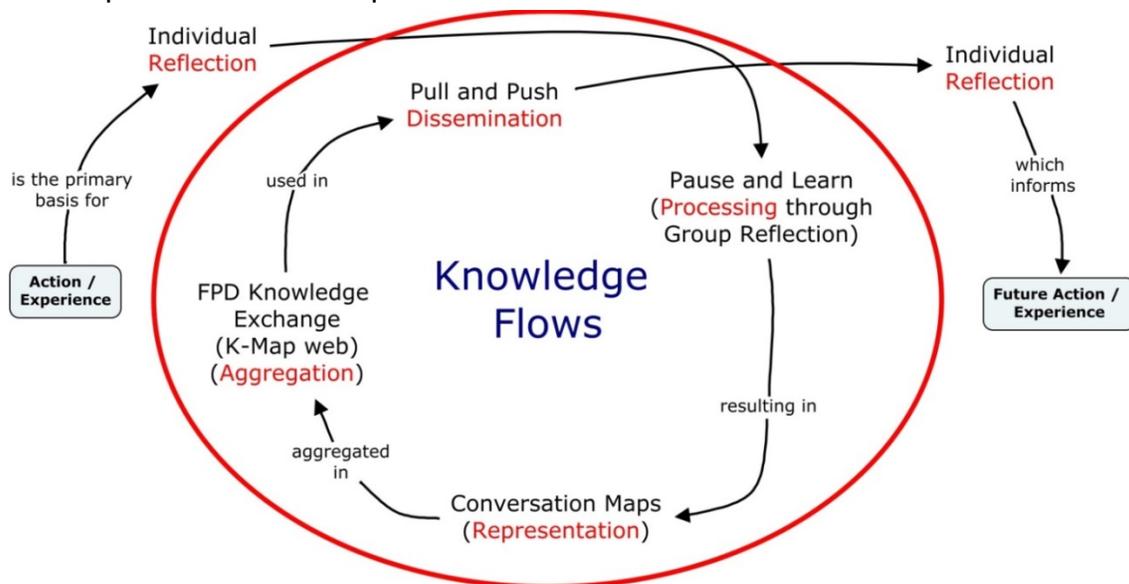
### K-MAPS – Pull and Push Strategies for Knowledge Dissemination

In a NASA project-based environment, people learn through three broad mechanisms: through on-the-job experience; through networking, knowledge sharing events, and informal conversations with colleagues; and by reviewing reference documents, including lessons learned databases, case studies, and Knowledge Maps. This article will focus on Knowledge Maps as a tool for knowledge dissemination across projects.

Knowledge maps (also known as K-MAPS) gather insights and lessons learned from Goddard projects in the Flight Projects Directorate Knowledge Exchange. The maps are based on existing case studies, lessons learned documents and Pause and Learn sessions. A previous article (“A Lessons Learned Summit: From Suomi-NPP to JPSS-1 and Beyond,” *The Critical Path* Spring 2012) highlighted the Pause and Learn sessions designed to transfer lessons from the Suomi National Polar-orbiting Partnership (NPP) to the Joint Polar Satellite System (JPSS-1). In that instance, lessons were directly transferred from one project team to another in a series of face-to-face meetings, and the lessons were also captured in Knowledge Maps.

A repository of lessons -- whether presented in Knowledge Maps or any other format -- provides little value to projects unless mechanisms are in place to make the lessons accessible and easily disseminated. A corollary is that a lesson stored in a repository isn't “learned” until it can be leveraged to inform other actions.

The diagram below describes knowledge flows supported by Knowledge Maps. K-MAPS are meant to complement and not replace other mechanisms.



(KM continued on page 19)

*(KM continued from page 18)*

Project team members who participate in Pause and Learn sessions add their insights to the conversation and contribute to the content of the Knowledge Maps. Everyone can benefit from the shared knowledge displayed in the Knowledge Maps. Strategies for disseminating lessons and insights captured in the FPD Knowledge Exchange can be divided into two categories: pull and push strategies.

Pull strategies rely on project team members to initiate the search for valuable information and to visit the Knowledge Exchange without much prompting. With pull strategies, project team members are in control of what information they access and how often they access it. There are a few things that individuals can do to customize their own pull strategies. For example, in the FPD Knowledge Exchange Blog, individuals can set up a blog alert. An alert allows people to receive an email letting them know about a new blog post on the site. Alerts can also be set up for new resources in various areas of the Knowledge Exchange website.

Making the K-MAPS accessible to everyone within Goddard is a key step in the right direction to support such information seeking behavior, yet it is not sufficient. Making materials available does not offer any guarantee that the materials will be accessed or used. Push strategies must also be implemented.

Push strategies are designed to ensure that project team members are made aware of specific materials that could be of value to them. In other words, the information is pushed to them based on assumptions about which materials need to be disseminated to pre-identified target groups. In the past, the primary mechanisms for disseminating lessons were case studies and knowledge sharing workshops. Monthly case study workshops have been organized by the Office of the Chief Knowledge Officer and case studies have been integrated into various training sessions, including the Road to Mission Success workshop series, the Goddard Masters Forum, and the Procurement Masters Forum.

Beginning in early 2013, a monthly K-MAP Workshop has been added to the existing menu of knowledge sharing events. Each K-MAP workshop is an opportunity to focus on lessons around topics, such as “Project Communications”, “Reviews”, “Integration and Testing”, “Partnerships”, and “Organizing and Staffing”. While a case study workshop allows participants to probe deeper into a single project’s story, a K-MAP workshop focuses on one topic and therefore covers related sets of lessons across projects.

Still, there is room for even further improvements and adjustments to ensure that lessons learned reach the people who are most likely to benefit from them. Here are a few things project teams can do to leverage K-MAPS and the FPD Knowledge Exchange:

- Request a briefing on the FPD Knowledge Exchange and K-MAPS for all key members of the team; discuss how the K-MAPS will be leveraged throughout the project’s life cycle.

*(KM continued on page 20)*

*(KM continued from page 19)*

- Assign one project team member to represent the project at each K-MAP workshop and to report back to the team on relevant insights at the next staff meeting.
- Use the K-MAPS to identify projects that have encountered challenges similar to those you are facing, gather initial insights from the K-MAPS and talk to individuals who were on that project team.
- Review the K-MAPS as a team in the context of a project team's preparations for each KDP review and incorporate relevant lessons into the presentation (or background) materials.

For more information, contact Barbara Phillip, FPD's Knowledge Management Project Manager at 301- 286-4666 and visit the FPD Knowledge Exchange (NDC login required/Goddard Only).

<https://fpdspi.gsfc.nasa.gov/sites/400KE/>

**Barbara Phillip, Code 400**  
**Knowledge Management Project Manager**

*(Moe Tintype continued from page 3)*

technology developers to better meet the needs of their customers and stakeholders. Work continues in assessing tech infusion strategies for Earth science data centers.

**Born:** Albuquerque, New Mexico

**Education:**

BA, Math with honors, University of South Florida

MSEE, Computing Engineering, University. of Maryland, College Park

**Life Before ESTO**

Throughout her 40-year NASA career, Karen has been very fortunate to be associated with technology projects at Goddard. Her early efforts addressed human factors and network strategies within Goddard's mission control centers, long before PCs dominated the computing landscape. She supported the NASA End-to-End Data Systems research program and led an inter-center User Support Environment study for the Space Station in the 80s, and served as the head of the Data Systems Technology section with a concentration on telescience and automation technologies. When the Earth Observing System Data and Information System (EOSDIS) program formed in the 90s, Karen managed the prototyping program for several years. She brought those skills to the new ESTO program as it was staffing up to manage instrument and information technology for all of NASA Earth sciences.

*(Moe Tintype continued on page 21)*

## PMDE Graduation Ceremony

A Project Management Development Emprise (PMDE) graduation ceremony was held on June 24 in the Code 400 suite of Building 8. Flight Projects Directorate Director Of and Chairman of the PMDE program, George Morrow, presented graduation plaques to Laura Marechek, Jim Simpson and Robby Estep. Several members of the PMDE Advisory Board were also in attendance. PMDE is being replaced by the new Flight Projects Development Program which is planned to start later this year (see story on page 11 of this issue).



*From left to right: Chairman of the PMDE Advisory Board George Morrow; Dave Scheve (Advisory Board); Laura Marechek (graduate); Liz Citrin (Advisory Board); Jim Simpson (graduate); Steve Shinn (Advisory Board); Robby Estep (graduate); Linda Greenslade (Advisory Board)*

*(Moe Tintype continued from page 20)*

### **Family**

Karen is one of four siblings who all studied engineering, and followed her brother, Jerry Lamb, as a co-op student to Goddard. She met and married her husband, Rud Moe, as his career in satellite servicing crossed her path at Goddard. They live in Cheverly, Maryland, and their son, Rud, is currently completing undergraduate studies at Arizona State University.

### **Life Outside of Goddard**

Karen is committed to implementing Earth-friendly strategies at home where they are transforming lawns into rain gardens, and have installed rain barrels and a permeable driveway to eliminate runoff. In addition to a lifelong love of nature, hiking and camping, birding is a new captivating interest. And, if not quite a gourmet cook, Karen is at least a serious foodie.

## This Really Exists: Giant Concrete Arrows That Point a Way Across America



Courtesy of [Aviation Archaeological Investigation & Research](#)

Every so often, usually in the vast deserts of the American Southwest, a hiker or a backpacker will run across something puzzling: a ginormous concrete arrow, as much as 70 feet in length, just sitting in the middle of scrub-covered nowhere. What are these giant arrows? Some kind of surveying mark? Landing beacons for flying saucers? Earth's turn signals? No, it's ...

### The Transcontinental Air Mail Route

On August 20, 1920, the United States opened its first coast-to-coast airmail delivery route, just 60 years after the Pony Express closed up shop. There were no good aviation charts in those days, so pilots had to eyeball their way across the country using landmarks. This meant that flying in bad weather was difficult, and night flying was just about impossible.

The Postal Service solved the problem with the world's first ground-based civilian navigation system: a series of lit beacons that would extend from New York to San Francisco. Every 10 miles, pilots would pass a bright yellow concrete arrow. Each arrow would be surmounted by a 51-foot

*(Transcontinental continued on page 23)*

*(Transcontinental continued from page 22)*

steel tower and lit by a million-candlepower rotating beacon. (A generator shed at the tail of each arrow powered the beacon). Now mail could get from the Atlantic to the Pacific not in a matter of weeks, but in just 30 hours or so.

Even the dumbest of air mail pilots, it seems, could follow a series of bright yellow arrows straight out of a Tex Avery cartoon. By 1924, just a year after Congress funded it, the line of giant concrete markers stretched from Rock Springs, Wyoming to Cleveland, Ohio. The next summer, it reached all the way to New York, and by 1929 it spanned the continent uninterrupted, the envy of postal systems worldwide.



**A re-creation of a 1920s map showing the route of airmail planes; the dots are intermediate stops along the course.**

Radio and radar are, of course, infinitely less cool than a concrete Yellow Brick Road from sea to shining sea, but I think we all know how this story ends. New advances in communication and navigation technology made the big arrows obsolete, and the Commerce Department decommissioned the beacons in the 1940s. The steel towers were torn down and went to the war effort. But the hundreds of arrows remain. Their yellow paint is gone, their concrete cracks a little more with every winter frost, and no one crosses their path much, except for coyotes and tumbleweeds. But they're still out there.

**Courtesy of Aviation Archeological Investigation & Research**

## 2013 Agency Honor Awards Code 400 Awardees

### Distinguished Public Service Medal

Holland Ford/Johns Hopkins University/400

### Outstanding Leadership Medal

Jamie Dunn/443

Jeffrey Gramling/454

Keith Parrish/443

### Outstanding Public Leadership Medal

Brian Roberts/Jackson and Tull Inc./408

### Exceptional Achievement Medal

Dena Butler/403

Melinda Deyarmin/470

Parameswaran Nair/405

Mark Voyton/443

Ronnice Wedge/422

### Exceptional Service Medal

Jacquelyn Fiora/422

Karen Halterman/421

### Exceptional Public Achievement Medal

Walter Majerowicz/ASCR Research & Technology/403

### Exceptional Public Service Medal

Charles Calhoun/SGT Inc/443

Christopher Connor/G&N Corporation/470

### Silver Achievement Medal [Team]

JWST Thermal Systems "Return-to-Crew" Team

### Group Achievement Award

HST Attitude Observer Anomaly Mitigation Team

JWST ISIM Flight Software Team

NASA-ESA Earth Science Data Exchange Team

Robotic Refueling Mission (RRM) Team

As it is too early to note the citations for the awards, they will be printed in the next issue of The Critical Path.

## 2013 FPD Peer Award Nominees

Director of Flight Projects George Morrow congratulated the nominees for the 2013 FPD Peer Awards. "I'm happy to report that peer recognition within the Flight Projects Directorate (FPD) was not hampered by the Sequestration and other challenges we've faced this year. The Peer Awards Committee received 93 nominations! I would like to congratulate the individuals listed below who were nominated for a FPD Peer Award."

- |                        |                        |                     |
|------------------------|------------------------|---------------------|
| Alex Janas             | Jessica McCarthy       | Wendy Morgenstern   |
| Amy Aqueche            | Nicholas Jedrich       | Jim Abell           |
| Angela Hess            | Nick Virmani           | Jim Simrall         |
| April Hildebrand       | Noosha Haghani         | Joanne Baker        |
| Barry Lusby            | Oscar Cheatom          | John Bruce          |
| Bobby Gheen            | Param Nair             | John Decker         |
| Brad Fergus            | Rae Roe                | John Fiorello       |
| Brad Lotocki           | Robert C. Powels       | John Lugmayer       |
| Brian Callicott        | Robert S. Kraeuter     | Joseph Krygiel      |
| Cassandra Scott        | Roger N. Clason        | Julia Breed         |
| Chris Fedrizzi         | Sandra Sumner          | Karilys Montanez    |
| Chris Popp             | Sandra Cauffman        | Keith Walyus        |
| Claudia Canales        | Sivakumara K Tadikonda | Kevin Mangum        |
| Colvin I. Bert         | Stephanie Gray         | Linda C Pattison    |
| Daniel J. Laczko       | Steve Padgett          | Linda Greenslade    |
| David Foertschbeck     | Susan Sparacino        | Linda Hepler        |
| David Mitchell         | Terri L. Hynson        | Linda M. Fatahi-Yar |
| Deanna Adamczyk        | Thomas A. Gitlin       | Linda Wunderlick    |
| Del Jenstrom           | Thomas C. Feild        | Lorna Londot        |
| Derrick Early          | Tim Dudenhoefer        | Matt Ritsko         |
| Eugene Guerrero-Martin | Tim Ross               | Megan Lambert       |
| Fran Wasiaak           | Timothy Bensch         | Melissa Rice        |
| Greg Frazier           | Tina Zinchini          | Mellani Edwards     |
| Holly Wyrostek         | Travis Chezick         | Michael Wilks       |
| J. Tim Vansant         | Vanessa Soto-Mejias    | Mike Honaker        |
| Janice McRoy           | Vickie Moran           | Mike Nemesure       |
| Jay Sigrist            | Virendra Thanvi        | Maryjane Stephenson |
| Jen Poston             | Warren Shultzaberger   | Monica Todorita     |

The winners of each Peer Award Category are featured on page 27.

## 2013 Peer Award Ceremony

For 2013, the Code 400 Peer Award Committee was presented with a unique opportunity to change a few of the established practices within this program. Principal changes included the decision to select a greater number of awardees than in previous years and to move the award ceremony to the B8 auditorium. On June 18th, Code 400 celebrated the amazing contributions by individuals in the words of their peers and colleagues who took the time to sing their praises. The committee reviewed a broad spectrum of nominations in nine different categories, selecting individuals both inside and outside Code 400 who are critical to our mission success. George Morrow, Dave Scheve, and Steve Shinn were the emcees for the event. They reminded us that leadership and influence when it relates to meeting our commitments and making progress doesn't just happen at the "boss" or "lead" level. We have many examples of leadership and key influence at every working level! The Committee had 93 nominations and selected 61 (33 Civil Servants and 28 contractors). A further breakdown of the Civil Service category includes 1 awardee from Code 100, 2 awardees from Code 200, 1 awardee from Code 300, 22 awardees from Code 400 and 7 awardees from Code 500.

The list on the following page recognizes the 2013 awardees who were nominated by their peers.

Code 400 would like to recognize and thank all involved in the 2013 Peer Award process:

### Peer Award Nominators

#### 2013 Peer Award Committee:

Jonathan Bryson, Gerry Daelemans Charisse Dorrell, Carolyn Ellenes, Charlette Johnson, Robin Krause, Ricardo Martinez-Serrano, Jacklyn Mattson, Bill Ochs, and Helen Sullivan, Jeanne Behnke

#### Ceremony Support:

Selene Annadale , Jimmy Barcus, Dena Butler, Monique Collins, Debbie Cusick, Chris Gunn, Lisa Hoffman, Gayle Knight, Eric Newman, Jennifer Poston, Karen Rogers, Desiree Stover, Donna Warthen, Linda Wunderlick, and Lesley Young

**Jeanne Behnke (with Jonathan Bryson / 403 and Lesley Young / 403)**  
**Deputy Project Manager/Operations**  
**ESDIS Project / 423**

2013 Peer Award Winners

Peer Award Category	Civil Servants	Contractors
<b>Boundless Energy Peer Award</b>	Nicholas Jedrich / 432	Joseph Krygiel / 425 Megan Lambert / 408 Timothy Bensch / 458 Tina Zinchini / 422 Alex Janas / 408 Linda Wunderlick / 400
<b>Diversity Peer Award</b>	Sandra Cauffman / 432 Matt Ritsko / 403	
<b>Mentor Peer Award</b>	Wendy Morgenstern / 591 Sandra Sumner / 427	
<b>Mission Impossible Peer Award</b>	Virendra Thanvi / 458 Julia Breed / 101 Cassandra Scott / 474 Oscar Cheatom / 323 Stephanie Gray / 501 Joanne Baker / 568 Amy Aqueche / 210	Travis Chezick / 427 Sivakumara K Tadikonda / 417 Robert C. Powels / 581 John Fiorello / 417 Linda Hepler / 422
<b>Rookie of the Year Peer Award</b>		Chris Popp / 428
<b>Steady Helm Peer Award</b>	Jay Sigrist / 581 Del Jenstrom / 427 Vickie Moran / 461 Keith Walyus / 401 Greg Frazier / 463 David Foertschbeck / 401	Colvin I. Bert / 427 Tim Ross / 323 Barry Lusby / 458 Derrick Early / 417
<b>The Silo Slammer Award</b>	David Mitchell / 430	
<b>Unsung Hero Peer Award</b>	Deanna Adamczyk / 425 Claudia Canales / 210S Melissa Rice / 452 Vanessa Soto-Mejias / 433 Mike Nemesure / 591	Daniel J. Laczko / 458 John Bruce / 420 MJ Stephenson / 541 Linda M. Fatahi-Yar / 427 Robert S. Kraeuter / 461 Brad Fergus / 400 Janice McRoy / 422 Jen Poston / 400
<b>Wild Card Peer Award</b>	Karilys Montanez / 460 Thomas A. Gitlin / 458 Bobby Gheen / 596	Tim Dudenhoefer / 427 Lorna Londot / 422 John Lugmayer / 549

## Comings & Goings April 1 thru June 30, 2013

### Comings:

- \* Myra Bambacus (from 700) to 401/Administrative Program Manager
- \* Devon Green to 405/RAO, Operations Research Analyst
- \* Dorothy Charles to 405/RAO, Operations Research Analyst
- \* Dimitrios Mantziaras to 428/ESMO Project, Mission Director
- \* Donna Swann (from 110) to 400/FPD Assistant Director
- \* Pam Millar (from 694) to 407/ESTO, Technology Development Manager
- \* Laura Milam-Hannin (from 540) to 400/Deputy Division Manager for the Future Instrument Projects Division, Code 490
- \* Robert J. White (from 501) to 400/Division Business Manager for the Future Instrument Projects Division, Code 490
- \* Carmen St. Paul to 426/DSCOV, Resources Analyst
- \* Jahi O. Wartts (from 501) to 400/Deputy Project Manager-Resources for the Future Instrument Projects Division, Code 490, supporting the ATLAS Project
- \* Elizabeth A. Fortner (from 501) to 443/JWST Project, Resources Analyst

### Goings:

- \* Chris Wilkinson retires from 428/ESMO Project, Deputy Project Manager
- \* Kwasi Horton (from 420) detail to 240/Security
- \* Pam Trance retires from 401/ACFO, Financial Manager
- \* Linda Landini retires from 420/Earth Science Projects Division, Financial Manager
- \* Gallette (Tracy) Borden (from 450.1) to 153.2/Program Analyst

**Lisa Hoffman, Administrative Officer  
Code 400**

# Quotes To Think About

"You see, but you do not observe."  
Sir Arthur Conan Doyle

"One can live in the shadow of an idea without grasping it."  
Elizabeth Bowen

"When the white missionaries came to Africa they had the Bible and we had the land. They said 'Let us pray.' We closed our eyes. When we opened them, we had the Bible and they had the land."  
Desmond Tutu

"As I hurtled through space, one thought kept crossing my mind – every part of this rocket was supplied by the lowest bidder."  
(attributed to) John Glenn

"After the game, the King and the pawn go into the same box."  
Italian Proverb

"To see a world in a grain of sand and heaven in a wildflower,  
hold infinity in the palm of your hand and eternity in an hour."  
William Blake

## Cultural Tidbits

### Did you Know.....

... that International Assistance Dog Week 2013 is August 4 – 10? Assistance dogs are professionally trained to aid a person with a disability. The week is dedicated to recognize the hard work of the dogs and their trainers. Assistance dogs can help and improve the lives of their human handlers. Assistance dogs can be guide dogs (to assist the visually impaired), hearing dogs (to help the deaf and hard of hearing), and service dogs (dogs not solely for visual or hearing support, but trained to provide other work).

For more information regarding Assistance Dogs, visit: <http://www.assistedogsinternational.org/>

Do you have a cultural tidbit to share? Send it to the Code 400 Diversity Council  
c/o Matthew Ritsko at [matthew.w.ritsko@nasa.gov](mailto:matthew.w.ritsko@nasa.gov) and we'll publish it in a future issue.

## Social News

- Janet Wood (Code 460) celebrated the wedding of her son, John Jr., to his beautiful bride, Brittany Townsend, on May 18, 2013. They were married on the 5<sup>th</sup> anniversary of their first date. They had a beautiful local ceremony and reception and had an adventurous and enjoyable honeymoon with destination stops in California, Hawaii, and Las Vegas before heading home exhausted. Luckily, they are not gamblers, so they came back with money in their pockets!
- Cori Faith Ottenstein, granddaughter of The Critical Path Editor Howard Ottenstein (ASRC/403) and his wife Marcia, recently graduated from the University of North Florida (UNF). Marcia and Howard both attended the late April ceremony. Cori intends to go on for a Master's degree at UNF in Special (Deaf) Education.
- Amber Hinkle (Code 450), daughter of Debbie Hinkle (Code 474) and Ken Hinkle (Code 550) and sister of Matt Hinkle (Code 544) is happy to announce Amber's marriage to Scott Jacobson on May 19, 2013. The happy couple spent their honeymoon in Europe.
- Congratulations to Chris Greco (Code 460) who married Maureen Fisher on May 21, 2013.
- Congratulations to Ashley Behrle (ASRC/403) and Chris Grau (Vantage/443) who were married on June 8, 2013, in Baltimore, Maryland.
- Congratulations to Lauren Disharoon (CTS/428), and Brian Tokarcik (Orbital Sciences/408) who were married on April 28, 2013 in Davidsonville, Maryland. Lauren is the daughter of Maureen Disharoon (ASRC/443).
- Best wishes to Jen Poston (Code 400), who had a baby boy on June 12<sup>th</sup> at 9:09 a.m. James Bradley Brown weighed in at 8 lbs., 6 oz.

# Meet the new faces of Code 400 Diversity & Inclusion Committee

## Why they joined the committee.....

"To help people understand the importance of diversity"



Angela Davis-Naylor, 400

"To engage in inclusive outreach projects & events"



Susan Wright, 440

"To assist FPD to understand the nuances & interpretations of East Asian cultures"



Ruth Carter, 470

"To share my personal experience for the benefit of FPD"



Hsiao Smith, 470

"To make an impact and ensure every voice is heard"



Tanjira Ahmed, 443

"To foster better relationships & be a voice of our supervisors & understand issues from our employee perspective"



Garry Gaukler, 474

"To strengthen organizational performance by capitalizing on our diverse workforce"



Steven Horowitz, 460

"To promote an environment that is recognized as treating team members with respect & dignity"



Debbie Hinkle, 474



## Current Committee Members



Hossin Abdeldayem, 405

## Just ahead in 2014

Right around the year-end corner GSFC has TDRS-L ready for a January 2014 launch from the Cape Canaveral Air Force Station (CCAFS) almost exactly one year after the successful launch of TDRS-K. Just one month later, in February 2014, the Global Precipitation Mission (GPM) is scheduled to be launched from the Japanese launch complex at Tanegashima Space Center.

## FUTURE LAUNCHES CY 2013

**Lunar Atmosphere and Dust Environment Explorer (LADEE)**

**SEPTEMBER**

**Mars Atmospheric and Volatile Evolution (MAVEN)**

**NOVEMBER**

**Total Solar Irradiance Calibration Transfer Experiment (TCTE) - STP-3**

**DECEMBER**

## ATTENTION INTERNET BROWSERS:

We're on the WEB  
<http://fpd.gsfc.nasa.gov/news.html>  
 or via the New "Code 400" Homepage  
<http://fpd.gsfc.nasa.gov>

### The Critical Path

Published by the Flight Projects Directorate

— In April, August, and December —

**Howard K. Ottenstein,**  
*Editor*

**Laura Paschal,**  
*Production Assistant*

**Paula L. Wood,**  
*Editorial Assistant*

If you have a story idea, news item, or letter for The Critical Path, please let us know about it. Send your note to Howard Ottenstein via email: [Howard.K.Ottenstein@nasa.gov](mailto:Howard.K.Ottenstein@nasa.gov), Mail: Code 403, or Phone: 6-8583. Don't forget to include your name and telephone number. Deadline for the next issue is November 12, 2013.