

National Aeronautics and Space Administration



goddardview

**Volume 7 Issue 6**

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## Assistant to the President for Disability Policy Visits Goddard

By Nina Harris

Goddard hosted a briefing and tour for Kareem Dale, Associate Director, White House Office of Public Engagement and Special Assistant to the President for Disability Policy, and his assistant Sara Feuerstein.

Senior staff from Goddard's Office of Human Capital Management and Equal Opportunity Programs highlighted Goddard's efforts to recruit and retain people with disabilities. Three engineers with disabilities led a tour of Goddard's Spacecraft Test and Integration Facilities. Christyl Johnson, Deputy Director for Science and Technology, greeted Mr. Dale and provided an overview of Goddard missions. ■



Photo credit: NASA/Goddard/Nina Harris

*Caption: From left: Lunar Reconnaissance Orbiter Lead Engineer Bill Yuknis, Goddard Disability Program Manager Denna Lambert, Feuerstein, Dale, Solar Dynamics Observatory Thermal Engineer John Hawk, and Global Precipitation Measurement (GPM) propulsion engineer Apurva Varia stop at the GPM mock-up.*



Photo credit: NASA/Goddard/Nina Harris

*Caption: From left: Denna Lambert, Kareem Dale hear from Rob Raper in Goddard's blanket lab.*

## GoddardView

Volume 7 Issue 6

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On the cover: The second stage of NPP being hoisted onto the United Launch Alliance Delta II rocket that will launch NPP into orbit in October.

Photo credit: NASA/Vandenberg Air Force Base

### GoddardView Info

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## Cygnus Space Station Cargo Carrier Arrives at Wallops

By Keith Koehler, Michael Braukus, J.D. Harrington, and Barron Beneski

NASA's partnership with industry to develop the next generation of commercial space transportation to the *International Space Station* reached another step Aug. 23, as the cargo module for Orbital Sciences Corp.'s *Cygnus* spacecraft, which will carry supplies to the station, arrived at Wallops Flight Facility. The *Cygnus* spacecraft is scheduled for a demonstration flight early next year on an Orbital Taurus II launch vehicle under NASA's Commercial Orbital Transportation Services agreement with the company.

"This is one more important step in our partnership with U.S. private industry to build safe, reliable and cost effective cargo transportation systems," said Philip McAlister, acting Director of Commercial Spaceflight Development at NASA Headquarters in Washington. "We are pleased that Orbital has made this accomplishment and look forward to the company flying the *Cygnus* spacecraft in 2012."

During the next several months, Orbital's engineering team will integrate the pressurized module with the *Cygnus* service module that includes the spacecraft's avionics, propulsion, and power systems.

*Cygnus* is scheduled for a demonstration flight from Wallops early next year on an Orbital Taurus II launch vehicle under NASA's Commercial Orbital Transportation Services agreement with the company.

For information about NASA's commercial space transportation efforts, visit: <http://www.nasa.gov/exploration/commercial/index.html>.

For more information about the *Cygnus* arrival, visit: <http://www.nasa.gov/centers/wallops/news/cygnus-arrives.html>. ■



Photo credit: NASA/Wallops

*Caption: Workers stand by as the Cygnus cargo module is unloaded.*



Photo credit: NASA/Wallops

*Caption: Workers begin the careful process of transferring the Cygnus cargo module.*

## Next NASA Earth-Observing Satellite Arrives in California for Launch

By Cynthia O'Carroll

On Tuesday, August 30, NASA's next Earth-observing research satellite arrived at Vandenberg Air Force Base in California to begin preparations for an October launch.

The National Polar-orbiting Operational Environmental Satellite System (NPOESS) Preparatory Project (NPP) is the first of a new generation of satellites that will observe many facets of our changing Earth.

The satellite will collect critical data to improve our understanding of long-term climate change and short-term weather conditions. With NPP, NASA continues many key data records initiated by the Agency's Earth Observing System satellites by monitoring changes occurring in the atmosphere, oceans, vegetation, ice, and solid Earth.

On August 28, NPP was placed in a shipping container and loaded on a transport truck at Ball Aerospace & Technologies Corp. in Boulder, Colo. After Tuesday's arrival, the satellite was unloaded and moved into the clean room at the AstroTech facility for launch preparation.



*Caption: The NPOESS Preparatory Project (NPP) climate satellite arrives at Vandenberg Air Force Base in preparation for its October launch.*

"The NPP team has produced an outstanding satellite and kept to schedule over the past year and a half," said Ken Schwer, NPP Project Manager at Goddard. "The world is looking forward to NPP's scientific measurements."

The NPP spacecraft will undergo prelaunch processing at Vandenberg, including a solar array functional test, a spacecraft limited performance test, and testing of the science instruments. Following these tests and a spacecraft launch simulation, the satellite will be fueled with its attitude control propellant.

NPP will be launched on a United Launch Alliance Delta II 7920 expendable launch vehicle. The Delta II first stage was hoisted into position on the pad at NASA's Space Launch Complex 2 on July 20. By August 2, the nine solid rocket boosters were attached, and the second stage was hoisted atop the first stage. Launch vehicle testing is underway.

The NPP spacecraft is scheduled to move to the pad and be mated with the rocket on October 7. Launch is scheduled for October 25 during a 9-minute and 10-second launch window from 5:48:01 to 5:57:11 a.m. EDT. The Delta II will place the satellite into a 512-mile high circular polar orbit.

NPP is the first satellite mission to address the challenge of acquiring a wide range of land, ocean, and atmospheric measurements for Earth system science while simultaneously preparing to address operational requirements for weather forecasting.

NPP serves as a bridge between NASA's Earth Observing System of satellites and the forthcoming Joint Polar Satellite System (JPSS). Previously called the National Polar-orbiting Operational Environmental Satellite System, JPSS satellites will be developed by NASA for the National Oceanic and Atmospheric Administration (NOAA).

NPP will carry five science instruments and test key technologies for the JPSS missions. Data from NPP will help scientists ensure a continuous record of environmental satellite data and also contribute to weather forecasting efforts. NOAA meteorologists will incorporate NPP data into their weather prediction models to produce accurate forecasts and warnings that will help emergency responders monitor and react to natural disasters.

Goddard manages the NPP mission on behalf of the Earth Science Division of the Science Mission Directorate at NASA Headquarters in Washington. The JPSS program is providing the ground system for NPP. NOAA will provide operational support for the mission. Launch management is the responsibility of the NASA Launch Services Program at the Kennedy Space Center in Florida.

To learn more about NPP, visit: <http://www.nasa.gov/NPP>. ■

Photo credit: NASA/Jerry Namy

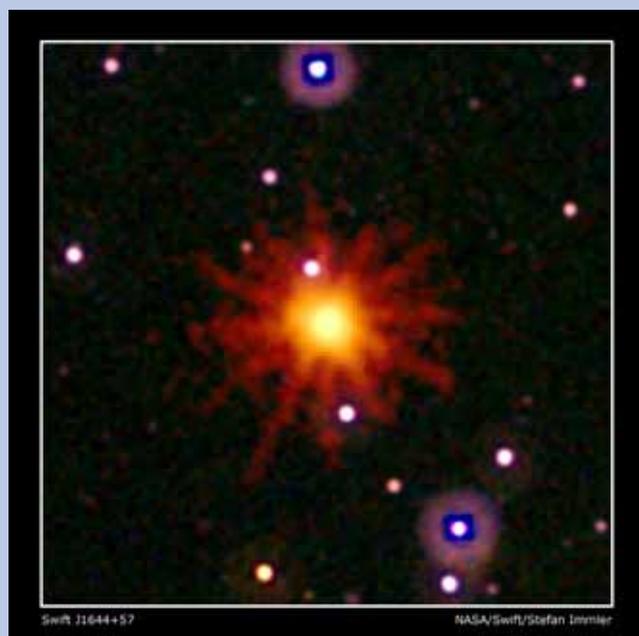
## Researchers Detail How a Distant Black Hole Devoured a Star

By Trent J. Perrotto, Lynn Chandler, and Francis Reddy

Two studies appearing in the Aug. 25 issue of the journal *Nature* provide new insights into a cosmic accident that has been streaming X-rays toward Earth since late March. NASA's *Swift* satellite first alerted astronomers to intense high-energy flares from the new source in the constellation Draco.

"Incredibly, this source is still producing X-rays and may remain bright enough for *Swift* to observe into next year," said David Burrows, professor of astronomy at Penn State University and lead scientist for the mission's X-Ray Telescope instrument. "It behaves unlike anything we've seen before."

Astronomers soon realized the source, known as Swift J1644+57, was the result of a truly extraordinary event—the awakening of a distant galaxy's dormant black hole as it shredded and consumed a star. The galaxy is so far away, it took the light from the event approximately 3.9 billion years to reach Earth.



*Caption: Images from Swift's ultraviolet/optical (white, purple) and X-ray telescopes (yellow and red) were combined to make this view of Swift J1644+57. Evidence of the flares is seen only in the X-ray image, which is a 3.4-hour exposure taken on March 28, 2011.*

Burrows' study included NASA scientists. It highlights the X- and gamma-ray observations from *Swift* and other detectors, including the Japan-led Monitor of All-sky X-ray Image (MAXI) instrument aboard the *International Space Station*.

The second study was led by Ashley Zauderer, a post-doctoral fellow at the Harvard-Smithsonian Center for Astrophysics in Cambridge, Mass. It examines the unprecedented outburst through observations from numerous ground-based radio observatories, including the National Radio Astronomy Observatory's Expanded Very Large Array (EVLA) near Socorro, N.M.

Most galaxies, including our own, possess a central supersized black hole weighing millions of times the Sun's mass. According to the new studies,

the black hole in the galaxy hosting Swift J1644+57 may be twice the mass of the four-million-solar-mass black hole in the center of the Milky Way galaxy. As a star falls toward a black hole, it is ripped apart by intense tides. The gas is corralled into a disk that swirls around the black hole and becomes rapidly heated to temperatures of millions of degrees.

The innermost gas in the disk spirals toward the black hole, where rapid motion and magnetism create dual, oppositely directed "funnels" through which some particles may escape. Jets driving matter at velocities greater than 90 percent the speed of light form along the black hole's spin axis. In the case of Swift J1644+57, one of these jets was pointed straight at Earth.

"The radio emission occurs when the outgoing jet slams into the interstellar environment," Zauderer explained. "By contrast, the X-rays arise much closer to the black hole, likely near the base of the jet."

Theoretical studies of tidally disrupted stars suggested they would appear as flares at optical and ultraviolet energies. The brightness and energy of a black hole's jet is greatly enhanced when viewed head-on. The phenomenon, called relativistic beaming, explains why Swift J1644+57 was seen at X-ray energies and appeared so strikingly luminous.

When first detected March 28, the flares were initially assumed to signal a gamma-ray burst, one of the nearly daily short blasts of high-energy radiation often associated with the death of a massive star and the birth of a black hole in the distant universe. But as the emission continued to brighten and flare, astronomers realized that the most plausible explanation was the tidal disruption of a Sun-like star seen as beamed emission.

By March 30, EVLA observations by Zauderer's team showed a brightening radio source centered on a faint galaxy near *Swift*'s position for the X-ray flares. These data provided the first conclusive evidence that the galaxy, the radio source, and the *Swift* event were linked.

"Our observations show that the radio-emitting region is still expanding at more than half the speed of light," said Edo Berger, an associate professor of astrophysics at Harvard and a coauthor of the radio paper. "By tracking this expansion backward in time, we can confirm that the outflow formed at the same time as the *Swift* X-ray source."

*Swift*, launched in November 2004, is managed by Goddard. It is operated in collaboration with Penn State, the Los Alamos National Laboratory in N.M. and Orbital Sciences Corp., in Dulles, Va., with international collaborators in the U.K., Italy, Germany and Japan. MAXI is operated by the Japan Aerospace Exploration Agency as an external experiment attached to the Kibo module of the space station.

For more images and video, visit:

<http://svs.gsfc.nasa.gov/vis/a010000/a010800/a010807/index.html>. ■

## Robotic Refueling Module to Be Relocated to Permanent Position on *International Space Station*

By Adrienne Alessandro

NASA's groundbreaking Robotic Refueling Mission (RRM) will reach a key milestone in September when the *International Space Station* (ISS) robots transfer the module to its permanent home on space station's ExPRESS Logistics Carrier-4. Robotic operations for the technology demonstration are currently slated to begin soon afterwards.



*Caption: Spacewalker Mike Fossum carries the Robotic Refueling Mission module from shuttle Atlantis to its temporary platform on the International Space Station on July 12, 2011. A robotic maneuver in September 2011 will transfer RRM to its permanent location on station's ExPRESS Logistics Carrier-4.*

In July, astronauts Mike Fossum and Ron Garan removed the RRM module from the cargo bay of shuttle *Atlantis*. In September, the Canadarm2 robot will permanently secure RRM on the ExPRESS Logistics Carrier-4 (ELC-4), an external platform also built at Goddard. The ISS will provide command, telemetry, and power support for the module through ELC-4 during the experiment's two-year window of operations.

The first set of refueling demonstration tasks are currently scheduled for January 2012. These activities will verify that on-orbit satellite repairs can be performed with today's technology.

Satellite servicing with astronauts is not new for NASA. *Skylab* was repaired in space in 1973. *Solar Maximum* and *Syncon IV*, with help from the shuttle, were successfully repaired in the 1980s. In the 1990s, NASA serviced the *Compton Gamma Ray Observatory*, *Intelsat 6*, and executed a series of highly successful servicing missions to the *Hubble Space Telescope*.

"NASA has been doing space servicing for quite some time now," said Cepollina. "We will be demonstrating abilities that will allow for the servicing of existing satellites and could influence the build of future satellites to allow easy on-orbit access for refueling and repair."

More recently, human and robotic servicing capabilities have contributed to the assembly, upkeep and repair of the ISS. With RRM, NASA can begin the work of confirming the robotic satellite-servicing technologies needed for the development of future robotic servicing spacecraft.

Cepollina believes it is just a matter of time before such servicing becomes routine. "If we are to venture further from Earth, the need for robotic servicing will increase," said Cepollina. "With the build of the space station, we see the increase of collaboration between human and robotic abilities in space servicing."

RRM operations will be entirely remote controlled by flight controllers at Goddard, Johnson Space Center, Marshall Space Flight Center, and the Canadian Space Agency's control center in St. Hubert, Quebec.

Included within the RRM module are four unique tools developed at Goddard: the wire cutter/blanket manipulation tool, the multifunction tool, the safety cap removal tool, and the nozzle tool. Each tool contains two integral cameras with built-in LEDs to give mission controllers the ability to see and control the tools.

Drawing upon 20 years of experience servicing *Hubble*, NASA's SSCO initiated the development of RRM in 2009. *Atlantis*, the same shuttle that carried tools and instruments for *Hubble* Servicing Mission 4, launched RRM to space. The last shuttle mission carried the first step to robotic refueling and satellite servicing to orbit—a new era sprung from the old. ■

A joint effort between NASA and the Canadian Space Agency, RRM will demonstrate the technologies, tools, and techniques needed to robotically service satellites, especially those not built with servicing in mind.

The results of this two-year technology test bed are expected to reduce risks associated with satellite servicing as well as lay the foundation and encourage future robotic servicing missions. Such future missions could include the repair and repositioning of orbiting satellites.

Launched to the ISS in July onboard the last shuttle mission, RRM marks the first use of the space station's Dextre robot beyond robotic station maintenance for technology research and development. It is also the first on-orbit demonstration to test, prove and advance the technology needed to perform robotic servicing on spacecraft not designed for refueling and repair.

"Robotic refueling and satellite servicing could extend the lifetimes of satellites, offering significant savings in delayed replacement costs," said Frank Cepollina, Associate Director of the Satellite Servicing Capabilities Office (SSCO) at Goddard. "Such servicing has the potential to allow human and robotic explorers to reach distant destinations more efficiently and effectively."

The RRM module is about the size of a washing machine and weighs approximately 550 pounds, with dimensions of 33 inches by 43 inches by 45 inches. RRM includes 0.45 gallon (1.7 liters) of ethanol that will be used to demonstrate fluid transfer on orbit.

## Lunar Reconnaissance Orbiter Images Offer Sharper Views of Apollo Landing Sites

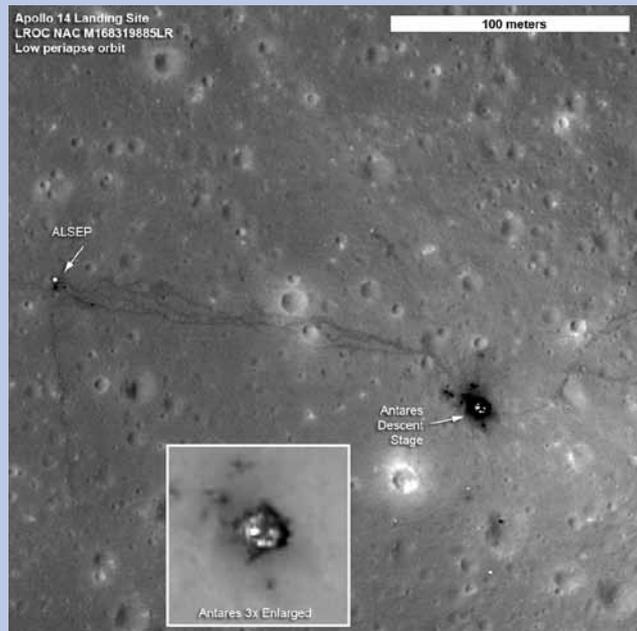
By Nancy Neal-Jones and Elizabeth Zubritsky

NASA's *Lunar Reconnaissance Orbiter* (LRO) captured the sharpest images ever taken from space of the *Apollo 12*, *14*, and *17* landing sites. Images show the twists and turns of the paths made when the astronauts explored the lunar surface.

At the *Apollo 17* site, the tracks laid down by the lunar rover are clearly visible, along with the last foot trails left on the Moon. The images also show where the astronauts placed some of the scientific instruments that provided the first insight into the Moon's environment and interior.

"We can retrace the astronauts' steps with greater clarity to see where they took lunar samples," said Noah Petro, a lunar geologist at Goddard, who is a member of the LRO project science team.

All three images show distinct trails left in the Moon's thin soil when the astronauts exited the lunar modules and explored on foot. In the *Apollo 17* image, the foot trails, including the last path made on the Moon by humans, are easily distinguished from the dual tracks left by the lunar rover, which remains parked east of the lander.



*Caption: The paths left by NASA astronauts Alan Shepard and Edgar Mitchell on both Apollo 14 Moonwalks are visible in this image. (At the end of the second Moonwalk, Shepard famously hit two golf balls.) The descent stage of the lunar module Antares is also visible.*

"The new low-altitude Narrow Angle Camera images sharpen our view of the Moon's surface," said Arizona State University researcher Mark Robinson, Principal Investigator for the Lunar Reconnaissance Orbiter Camera (LROC). "A great example is the sharpness of the rover tracks at the *Apollo 17* site. In previous images, the rover tracks were visible, but now they are sharp parallel lines on the surface."

At each site, trails also run to the west of the landers, where the astronauts placed the Apollo Lunar Surface Experiments Package (ALSEP) to monitor the Moon's environment and interior.

This equipment was a key part of every *Apollo* mission. It provided the first insights into the Moon's internal structure, measurements of the lunar surface pressure and the composition of its atmosphere. *Apollo 11* carried a simpler version of the science package.

One of the details that shows up is a bright L-shape in the *Apollo 12* image. It marks the locations of cables running from ALSEP's central station to two of its instruments. Although the cables are much too small for direct viewing, they show up because they reflect light very well.

The higher resolution of these images is possible because of adjustments made to LRO's orbit, which is slightly oval-shaped or elliptical. "Without changing the average altitude, we made the orbit more elliptical, so the lowest part of the orbit is on the sunlit side of the Moon," said Goddard's John Keller, Deputy LRO Project Scientist. "This put LRO in a perfect position to take these new pictures of the surface."

The maneuver lowered LRO from its usual altitude of approximately 31 miles (50 kilometers) to an altitude that dipped as low as nearly 13 miles (21 kilometers) as it passed over the Moon's surface. The spacecraft has remained in this orbit for 28 days, long enough for the Moon to completely rotate. This allows full coverage of the surface by LROC's Wide Angle Camera. The cycle ends today when the spacecraft will be returned to its 31-mile orbit.

"These images remind us of our fantastic *Apollo* history and beckon us to continue to move forward in exploration of our solar system," said Jim Green, Director of the Planetary Science Division at NASA Headquarters in Washington.

LRO was built and is managed by Goddard. Initial research was funded by the Exploration Systems Mission Directorate at NASA Headquarters. In September 2010, after a one-year successful exploration mission, the mission turned its attention from exploration objectives to scientific research in NASA's Science Mission Directorate.

To learn more about LRO, visit: <http://www.nasa.gov/lro>.

To see video and interactive images, visit: [http://www.nasa.gov/mission\\_pages/LRO/news/apollo-sites.html](http://www.nasa.gov/mission_pages/LRO/news/apollo-sites.html). ■

## NASA Spacecraft Observes New Characteristics of Solar Flares

By Susan Hendrix

NASA's *Solar Dynamics Observatory* (SDO) has provided scientists new information about solar flares indicating an increase in strength and longevity that is more than previously thought.

Solar flares are intense bursts of radiation from the release of magnetic energy associated with sunspots. They are the solar system's largest explosive events and are seen as bright areas on the Sun. Their energy can reach Earth's atmosphere and affect operations of Earth-orbiting communication and navigation satellites.

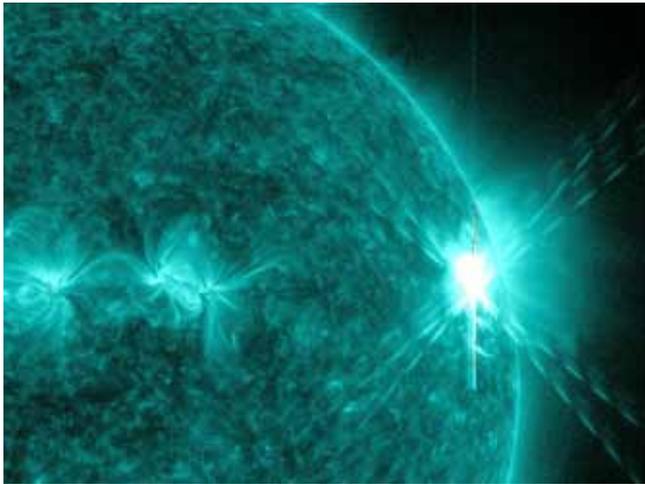


Photo credit: NASA/SDO/AIA

*Caption: An x-class flare spotted on August 9, 2011. The flare burst from Sun spot region AR11263, before it rotated out of view. This image is from the beginning of the event just before the satellite sensors were overwhelmed by energetic particles.*

Using SDO's Extreme ultraviolet Variability Experiment (EVE) instrument, scientists have observed that radiation from solar flares continues for up to five hours beyond the main phase. The new data also show the total energy from this extended phase of the solar flare's peak sometimes has more energy than the initial event.

"Previous observations considered a few seconds or minutes to be the normal part of the flare process," said Lika Guhathakurta, Lead Program Scientist for NASA's Living with a Star Program at NASA Headquarters. "This new data will increase our understanding of flare physics and the consequences in near-Earth space where many scientific and commercial satellites reside."

On Nov. 3, 2010, SDO observed a solar flare. If scientists only had measured the effects of the flare as it initially happened, they would have underestimated the amount of energy shooting into Earth's atmosphere by 70 percent. SDO's new observations provide a much more accurate estimation of the total energy solar flares put into Earth's environment.

"For decades, our standard for flares has been to watch the X-rays as they happen and see when they peak," said Tom Woods, a space scientist at the University of Colorado in Boulder and principal author on a paper in Wednesday's online edition of *Astrophysical Journal*. "But we were seeing peaks that didn't correspond to the X-rays."

Over the course of a year, the team used EVE to map each wavelength of light as it strengthened, peaked, and diminished over time. EVE records data every 10 seconds and has observed many flares. Previous instruments only measured every 90 minutes or didn't look at all wavelengths simultaneously as SDO can.

To compliment the EVE graphical data, scientists used images from another SDO instrument, the Advanced Imaging Assembly (AIA). Analysis of these images showed the main flare eruption and its extended phase in the form of magnetic field lines, called coronal loops, that appeared far above the original eruption site. These extra loops were longer and became brighter later than the loops from the main flare and also were physically set apart from those of the main flare.

Because this previously unrealized extra source of energy from flares is also impacting Earth's atmosphere, Woods and his colleagues are studying how the late phase flares can influence space weather. Space weather caused by solar flares can affect communication and navigation systems, satellite drag, and the decay of orbital debris.

SDO launched on Feb. 11, 2010. The spacecraft is the most advanced spacecraft ever designed to study the Sun and its dynamic behavior. SDO provides images 10 times clearer than high definition television and more comprehensive science data faster than any solar observing spacecraft in history.

EVE was built by the Laboratory for Atmospheric and Space Physics at the University of Colorado. AIA was built by Lockheed Martin Solar and Astrophysics Laboratory in Palo Alto, Calif.

Goddard built, operates, and manages SDO for NASA's Science Mission Directorate. SDO is the first mission of NASA's "Living with a Star" program, or LWS. The goal of LWS is to develop the scientific understanding necessary to address those aspects of the connected Sun-Earth system that directly affect our lives and society.

For more information, images, and videos, visit:  
<http://www.nasa.gov/sunearth>.

For more information about the SDO mission and instruments, visit:  
<http://www.nasa.gov/sdo>. ■

## Webb Telescope's MIRI Flight Instrument Completes Cryogenic Testing in the U.K.

By Rob Gutro

A pioneering camera and spectrometer that will fly aboard NASA's *James Webb Space Telescope* has completed cryogenic testing designed to mimic the harsh conditions it will experience in space. The Mid-Infrared Instrument (MIRI) underwent testing inside the thermal space test chamber at the Science and Technology Facilities Council's Rutherford Appleton Laboratory (RAL) Space in Oxfordshire, U.K. The sophisticated instrument is designed to examine the first light in the universe and the formation of planets around other stars.

A team of more than 50 scientists from 11 countries tested MIRI for 86 days, representing the longest and most exhaustive testing at cryogenic temperatures of an astronomy instrument in Europe prior to delivery for its integration into a spacecraft.



Photo credit: RAL

*Caption: The Mid-Infrared Instrument underwent testing inside the thermal space test chamber at the Science and Technology Facilities Council's Rutherford Appleton Laboratory Space in Oxfordshire, U.K.*

"The successful completion of the test program, involving more than 2,000 individual tests, marks a major milestone for the *Webb Telescope* mission," said Matthew Greenhouse, *Webb Telescope* Project Scientist for the Science Instrument Payload at Goddard.

Along with the *Webb Telescope's* other instruments, MIRI will help scientists better understand how the universe formed following the Big Bang and ultimately developed star systems that may be capable of supporting life. In particular, scientists hope to explore young planets around distant stars that are shrouded by gas and dust when viewed in visible light. Because infrared light penetrates these obstructions, MIRI can acquire images of planetary nurseries sharper than ever before possible. With its spectrometer, MIRI could potentially reveal the existence of water on these planets as well, informing future investigations into their habitability for humans.

To capture some of the earliest, infrared light in the cosmos, MIRI has to be cooled to 7 degrees Kelvin (-266 Celsius/-447 Fahrenheit), which brings tough challenges for testing the instrument. Inside the RAL Space thermal space test chamber, specially constructed shrouds cooled to 40 degrees Kelvin (-233C/-388F) surround MIRI while scientists observe simulated background stars. The tests were designed to ensure that MIRI can operate successfully in the cold vacuum of space and allow scientists to gather vital calibration and baseline data.

The MIRI team is now analyzing data from the cryogenic test campaign, completing remaining "warm testing," and will prepare the instrument for delivery to Goddard. There it will be integrated with the other instruments, and the telescope.

"Thousands of astronomers will use the *Webb Telescope* to extend the reach of human knowledge far beyond today's limits. Just as the *Hubble Space Telescope* rewrote textbooks everywhere, *Webb* will find new surprises and help to answer some of the most pressing questions in astronomy," said John Mather, *Webb* Senior Project Scientist at Goddard.

MIRI was built by scientists and engineers from European countries, NASA's Jet Propulsion Laboratory in Pasadena, Calif., and several U.S. institutions.

The *Webb Telescope* is a partnership between NASA, the European Space Agency, and the Canadian Space Agency.

To learn more about the *Webb Telescope*, visit: <http://www.jwst.nasa.gov>. ■

## i am **goddard**: Diana Yon

By Christina Coleman

Sitting at the front of the Office of Human Capital Management (OHCM), Diana Yon is accustomed to interacting with dozens of potential and current employees, assisting in the day-to-day operations of OHCM, and being part of making Goddard a more inclusive environment by fostering and sustaining our diverse community. On one particular day, however, Yon's usual smile was gone. She was in a bad mood.

"My co-worker came in and said, 'I'm going to stay away from you because I'm not getting positive vibes and I don't want those to brush off on me.' And I thought, 'That's true.' People can sense that you're in a bad mood. That was one of the big life changing experiences for me. That's why I have a different outlook on life. You gain respect for not allowing things to upset you and people are more open to you," Yon said.

"I think that also contributes to being respectful of others. I can be open and explain to you how I'm feeling and I've found that helps other people open up to me too," she added.



*Caption: Diana Yon.*

It's no surprise, then, that Yon contributes to the "i am **goddard**" campaign by making sure to *Model Respect and Value the Contributions of All*.

"I'm a secretary for OHCM, but I feel like it's so much more than that. We really strive hard to be a role model for the Center in hopes that others will see our actions and try to be more positive," Yon said. "We're not just human capital. Employees are not just resources. We are people. We are all dedicated and we all have a special purpose to the missions here on Center."

What's more impressive is that Yon, who has been at Goddard for four years, is also a Stay-In-School Student working towards a degree in paramedics. While working full time in the Director's office for OHCM, Yon has been attending the Community College of Baltimore County, juggling her heavy work and school load and being a mother to two toddlers.

Yon's propensity to accept and advocate the differences of those she encounters with a smile isn't simply part of her job here; it permeates every aspect of her life. While her hometown, Severn, Md., "wasn't a very diverse town," Yon credits her own family life with teaching her to respect differences.

"My family is very open. I don't feel like I need to hide anything from anybody," she said. "I learned early on that you have to respect that everyone is different," Yon said. "The differences between individuals can also be strengths. I definitely respect other people's values and opinions."

It is that approach that Yon credits for two things: her contribution to Goddard's inclusiveness and being the leading Center in diversity within the Agency, and her success as a volunteer EMT and paramedic.

"You get a satisfaction out of helping people. At Goddard, we want to show the Center that you don't have to hire the same type of people. People are realizing that you can hire outside of the norm," Yon said. "We're proving to everyone that you can make it work. Just because someone is blind or can't hear doesn't mean they aren't able to provide the services or ideas we need."

But it's her value of modeling the respect for others that has helped her tremendously in the medical field, which she started to pursue after volunteering at her local firehouse. After seeing the seriousness of accidents and, in the most extreme cases, fatalities, Yon has had to fall back on her positive attitude and her open-mindedness to deal with all types of victims.

"This is another thing that helps me respect diversity and life in general. Knowing that you are the first person that they see in their time of need or illness and you can be the one person to not only save their lives but make them feel a little better about their situation makes you respect individuality. It makes you value all life."

In her free time, Yon enjoys being outdoors with her two little girls. Her favorite dessert is a chocolate brownie sundae. Not surprisingly, Yon likes to keep an open mind, trying new activities and foods as a pastime. "I will try everything once, you never know if you're going to like it or not," Yon said.

Yon believes that her "i am **goddard**" value is not one unique to the Center, but it is something that people bring with them from culture and family life. It's the contribution to the Center that means the most. "NASA is one of the best places to work for because of our diversity and because of how understanding we are of cultures," she said. "I just feel honored to work for the Agency as a whole." ■

Photo credit: NASA/Goddard/Pat Izzo

## New Employee Spotlight

By John Putman. Photos by Bill Hyrbyk and Christopher Perry

The Office of Human Capital Management (OHCM) invites you to visit the New Employee Spotlight Web site. On the site, we acknowledge our newest civil servant employees and highlight pertinent information that will help you to get to know them. Please welcome them to our Goddard family.

Below are some of Goddard's new additions. The Web site will be updated every two weeks as Goddard takes on new hires. Watch Dateline and InsideGoddard for announcements. See more new members of the Goddard community at: <https://internal.gsfc.nasa.gov/web/community/hes>. ■



**Melissa Cold**, Resource Analyst, Code 801

### What will you be doing?

Working with the Resources Management Office performing budget execution, financial control, and cost accounting functions.

### What did you do before you came to Goddard?

Worked as a WFF contractor as a Financial Manager, performing similar duties.

### Hobbies/Interests:

Snow skiing, snowboarding, jogging, waterskiing, going to the beach, and spending time with the family.

### Why did you want to work for NASA Goddard?

I wanted to be a part of NASA, a part of the world's leader in space and aeronautics. I am highly motivated and feel that I can effectively bring value to NASA as I work to achieve my career goals.

### Additional Information?

I am excited and pleased to be a part of NASA!



**Michael Scott**, Joint Polar Satellite System (JPSS) Crosstrack Infrared Sounder (CrIS) Instrument Manager, Code 472

### What will you be doing?

Supporting the development, test, delivery, launch, and commissioning of the Crosstrack Infrared Sounder for JPSS.

### What did you do before you came to Goddard?

I was a program manager for an engineering services contract and supported the development of scientific sensors as a systems engineer.

### Hobbies/Interests:

Skiing, hiking, mountain biking, and doing anything with my wife and children.

### Why did you want to work for NASA Goddard?

I started working with scientific sensors ten years ago on the GOES Project where I caught the bug. Pursuing solutions to science, engineering and programmatic problems is the best of all worlds, there is always something to learn. NASA Goddard is one of the few places that this work environment exists.

## OutsideGoddard: Holly Gilbert

By Elizabeth M. Jarrell

Although Solar Physicist Holly Gilbert does not have children of her own, she likes children and wanted to become involved in and give back to her community. In January 2009, she began training to be a Court Appointed Special Advocate (CASA) for Voices for Children, the state organization responsible for the foster care program for neglected and abused children. She completed 30 hours of required training, underwent a background check, and was ready to begin as a volunteer, which requires about 10 hours a week.

Gilbert explains, "A CASA is basically responsible for looking out for the best interests of a foster child. 'The best interests of a child' means making sure that a child is well cared for, is being provided appropriate medical care, is making academic progress, and is in a healthy and non-abusive family environment."

Gilbert adds that there is another dimension to being a CASA. Specifically, Gilbert says, "The CASA is in contact with all of the people involved in the child's life including the biological parents, the foster family, the Department of Social Services' social worker, any therapists, and various school administrators. By seeing the child on a regular basis, the CASA is the one, constant person in that child's life." To reinforce this constancy, a CASA is usually assigned only one child at a time and takes that child on an outing every week.



*Caption: Holly Gilbert.*

One of the main responsibilities of a CASA is to write a report for the assigned judge about every three months recommending that the child either continue in foster care or be reunited with the biological parents. This report is based on the CASA's interactions with the child as well as with all of the people involved in the child's life.

Gilbert is currently still assigned to her first child, a five year old girl whose mother has been in and out of jail for drug related offenses. The child had been living with her purported father and his girlfriend, both of whom were suspected of physical abuse. The maternal grandmother alerted the Maryland Department of Social Services about her granddaughter, and the child was placed with a foster family.

Nine months later, around July 2009, Holly was assigned to be this child's CASA. Remembers Holly, "My first impression was that she was an adorable, outgoing, and very well-adjusted little girl. But she was like a 16 year old in a five year old's body because she had had to deal with very mature issues at such a young age." They got along famously from the start. Once a week, Holly takes her charge out for an activity such as going to the park, to the mall, out to eat, to the library, bowling, or "just doing some fun thing."

What worries Gilbert is how this child's story will end. Gilbert knows that the final outcome will be either reunification with the biological mother or adoption unless the child reaches the age of majority, which is 18 in Maryland, before either event occurs. According to Gilbert, "Most of the time, reunification with the biological parent is our goal. To do so requires the biological parent to fulfill a certain set of requirements which depends on the individual case. For example, this child's mother must complete a drug rehabilitation program, establish a steady income, and demonstrate a stable home environment."

Gilbert is conflicted about what will happen to her child. Says Gilbert, "I'm hoping for reunification with her biological parent, but the child is thriving in her foster home and enjoying all kinds of opportunities that her foster parents are able to offer. However, the test is what is in the best interests of the child which, thankfully, is what the judge, not me, will eventually decide."

Being a CASA is Gilbert's way of giving back to her community. Explains Gilbert, "Too many abused and neglected children slip through the cracks. Programs like Voices for Children save these kids in need of assistance. Assigning one CASA per child means that each child will get individual attention." Holly concludes that, on balance, "The emotional rewards of being a CASA far outweigh the emotional demands." ■

Photo credit: NASA/Goddard/Pat Izzo