Orbiter
September 2013

Austin Urges Fifth Graders to Study Hard and Go to College

by Heather Golden
September 30, 2013

Dr. Wanda Austin talks with fifth-grade students at KIPP Scholar Academy in Los Angeles as part of the History Makers back-to-school event on Friday, Sept. 27. (Photo: Elisa Haber)

Dr. Wanda Austin spent the morning of Friday, Sept. 27, in Los Angeles with Knowledge is Power Program (KIPP) Scholar Academy students during the History Makers fourth annual day of service program.

She began with a slideshow of photos of herself growing up. She emphasized the importance of education and going to college, and passed on to the students advice her own parents had given her years before.

“Doing well in school is the most important thing you can do to be successful,” she said.

She then discussed Aerospace’s role within the space community, and explained the impact weather and communication satellites have on the students’ world.

The students, all in the fifth grade, were enthusiastic and eagerly answered all of Austin’s questions during each slide. The photo that garnered the most attention and excitement depicted Austin meeting President Barack Obama.

Dr. Wanda Austin shakes hands with President Barack Obama. This photo was the one students at the KIPP Scholar Academy in Los Angeles seemed to enjoy the most during Austin’s presentation at the school Sept. 27. (Photo: The Aerospace Corporation)

At the end, the students had a few questions of their own for Austin, which ranged from asking about an upcoming satellite launch to why Austin moved across the country to join the Aerospace team more than three decades ago. They also demonstrated, through song, a few of the things they had recently learned, such as counting in multiples of six and the state capitals.

The History Makers Back to School initiative brings African American leaders into schools to interact with students firsthand and to raise student awareness about the achievements of some accomplished African Americans in their local communities. Close to 500 History Makers visited schools in 30 states and 67 cities to tell their personal stories and provide important examples of black leadership.

President's Award Goes to Team that Recovered, Enhanced Space Asset

by Matthew Kivel
September 27, 2013

On Sept. 19, the team of Ronald Clifton, director, Performance Modeling and Analysis Department; Marc DiPrinzio, senior engineering specialist, Mission Analysis and Operations Department; Dr. Matthew Ferringer, project leader, Architecture and Design Subdivision; and Timothy Thompson, senior engineering specialist, Performance Modeling and Analysis Department, all of the Engineering and Technology Group, was awarded a 2013 President's Achievement Award for "execution of a revolutionary constellation replenishment technique, allowing for performance recovery and optimization for a critical national system."

Team members with Dr. Wanda Austin, from left, Dr. Matthew Ferringer, Ronald Clifton, Timothy Thompson, and Marc DiPrinzio. (Photo: Eric Hamburg)

The Aerospace team was able to recover, and ultimately enhance, the performance of a valuable national security asset. Details of this effort are limited due to security classification.

Due to an on-orbit anomaly, a space asset was exhibiting degraded performance in one of its mission areas. Using the baseline constellation replenishment plan, it would have taken several years before this situation was rectified by the replacement of the degraded spacecraft.

The Aerospace team was tasked with developing simulation capabilities that were not previously available within Aerospace or elsewhere. In fact, such a difficult replenishment scheme had never been executed on any other program. The team helped to determine that Aerospace's Genetic Resources for Innovation and Problem Solving (GRIPS) tool suite would be useful in developing the constellation replenishment plan.

The team worked tirelessly to add the necessary tools and capabilities to GRIPS. Initial results were reviewed in late 2009 and were found to be promising. After a few iterations, a solution was found that effectively recovered asset performance several

years earlier than anticipated.

In addition, the team's new constellation design allowed for a 20 percent improvement in performance upon completion of the replenishment plan.

After this initial success, the exercise was continued. The team found an updated solution for the next timeframe, allowing a further performance improvement of 20 percent in certain regions. This new plan was approved and implementation began in 2012.

Lewis Honored for Building Project West Wing to Prominence

by Matthew Kivel
September 24, 2013

The Honorable Robert Walker, board of trustees member, presented the 2013 Trustees' Distinguished Achievement Award to Dr. Donald Lewis, principal director, Strategic Awareness and Policy, Systems Planning, Engineering, and Quality, at the 34th President's and Trustees' Distinguished Achievement ceremony on Sept. 19.

Winner of the 2013 Trustees' Distinguished Achievement Award, Dr. Donald Lewis. (Photo: Eric Hamburg)

Lewis was honored for "outstanding personal contribution and leadership of Project West Wing (PWW) into its 56th year of premier space-related technical intelligence service to the nation."

He received a stylized crystal eagle's-wings statue and an award of $25,000.

For more than two decades Lewis has been the leader of Project West Wing — a staff organization focused on the scientific and technical intelligence analysis of foreign space and missile systems. Under his stewardship, PWW has become widely known for providing excellence in space intelligence.

In 1991, Dr. Lewis became the third leader of PWW. At the time of Lewis' appointment, the agency was in desperate need of a new direction after the fall of the Soviet Union and the subsequent end of the Cold War. For years, PWW had focused solely upon the Soviet Union and its potential threat to U.S. national security.

Lewis brought a new vision to the organization that traded its narrow Cold War focus for a broader strategy that supported the full spectrum of space technical intelligence research studies, as requested by various elements of the acquisition and intelligence communities.

During a time of great uncertainty and financial instability, Dr. Lewis built PWW into a flourishing enterprise that accounted for dynamic changes in a rapidly evolving global security environment. In many ways, he went above and beyond the typical duties of an Aerospace principal director, creating an innovative business model and adding relevancy and prestige to the PWW brand.

Aerospace Experience Benefits Iridium Next

by Matthew Kivel
September 25, 2013

Artist's drawing of an Iridium Next satellite. (Image: Iridium Communications Inc.)

Since launching its constellation of low-Earth-orbiting satellites in the 1990s, the company that is now Iridium Communications Inc. has delivered different iterations of global mobile communications to a fluctuating consumer base.

In the late 1990s, the Department of Defense provided Iridium with nearly 100 percent of its business, but in recent years, that margin has shrunk to around 23 percent. Private companies now comprise the bulk of Iridium's customers; from humanitarian services to fishermen, Iridium provides wide-reaching telecom coverage to globe-trotting entities of all shapes and sizes.

Now, Iridium has chosen to develop and deploy a new constellation of satellites: Iridium Next. From the very beginning, Aerospace has been involved in the meticulous planning and development of the Iridium Next constellation. The first order of business in developing Iridium Next was securing a multi-billion dollar-loan. Aerospace helped Iridium research and compare two competing loan offers secured by the companies vying to become the project's prime contractor — one from Lockheed Martin (with U.S. financing) and one from Thales Alenia Space (with French financing). Aerospace helped write some of the loan terms — those tied to the production and performance of the satellites — and Iridium eventually selected Thales Alenia as the project's primary contractor.

Karl Baker serves as program lead for Aerospace's work with Iridium Next and views Aerospace's efforts in overseeing the ambitious project as a harmonious blend of financial and technical proficiency.

"The biggest issue in this financial transaction was answering the question: 'how long will the current Iridium satellites last,'" says Baker. In order to appease the investment banks that were to finance the loan, Baker and his Aerospace team needed to estimate and predict the reliability of satellites that had already greatly exceeded their expected five-year life spans. If the satellites couldn't hold up for an adequate amount of time, the loan wouldn't make sense for the financiers. Though a technically rigorous task, the Aerospace team was able to adequately assess the lifespan of the on-orbit Iridium satellites and found that the satellites would survive long enough for the Iridium Next constellation to be developed. This information, along with other technical examination data, allowed for a loan agreement to be reached.

Though not widely publicized, Aerospace has coordinated financial deals in the past, but the Iridium Next project is the corporation's biggest effort yet. "We're hoping this establishes our corporation in the finance sector," says Baker. "The Iridium Next project is the biggest commercial satellite project since the '90s — depending on how you look at it. Building 81 satellites is a pretty big deal. It's a high visibility project and we're certainly hoping it'll lead to more work." Aerospace was able to partner with Iridium due to a history of exemplary collaboration between the two companies. "We'd done a lot of work with Iridium in the past … a lot of anomaly resolution," says Baker. "So we had a good relationship with them and when Iridium Next came up they wanted to work with us on it."

SpaceX will serve as the primary launch service provider for the Iridium Next constellation, and as a result, Iridium has now become SpaceX's largest customer, signing the largest single commercial launch deal in history — worth $492 million. Baker and his Aerospace team helped set contractual milestones for SpaceX and they are closely monitoring the development of SpaceX's Falcon 9 transport rocket — which will be used to launch many of the Iridium satellites.

The first satellite launch is scheduled for 2015 and will utilize a Kosmotros Dnepr — a converted Russian missile — to carry the first two satellites into orbit. These satellites will be used for initial testing of the communications system, after which, there will be seven Falcon 9 launches with ten satellites per launch. The last launch is scheduled for 2017. Nine satellites will be built but not launched during this timeframe.

The pairing of Aerospace and Iridium Next may seem unlikely, but on a deeper level, the collaboration feels completely intuitive. Aerospace has a deep well of technical expertise that can be applied to a host of situations and critical needs. Numerous

Karl Baker leads the Aerospace team working with Iridium. (Photo: Eric Hamburg)

departments were called upon to consult during the Iridium Next loan negotiations, and others are still being used to monitor the building process and eventual launch of these satellites. With the commercial space market finally coming into its own, Aerospace seems poised to contribute greatly to its progression in the years ahead.

Chantilly Family Day Attracts Hundreds

by Lindsay Chaney
September 23, 2013

More than 500 employees and their family members attended the Chantilly Family Day on Saturday, Sept. 21.

The event included welcoming remarks from Dr. Mal De Ponte, senior vice president; tours of the new campus building; and a lunch of hamburgers, hot dogs, veggie burgers, side dishes, and desserts.

The weather cooperated during the activities from 10 a.m. to 2 p.m. Shortly after 2 p.m., with almost everyone gone from the venue, a rainstorm began.

View a slideshow of photos below.

Hot dogs and hamburgers were on the menu for lunch at the Chantilly Family Day. (Photo: Jen Redente)














Eight Win Highest Company Achievement Honors

by Matthew Kivel
September 19, 2013

Each year, The Aerospace Corporation takes time out from its bustling work day to commemorate the accomplishments of some of its most exceptional employees. Most of the corporation's professional achievements occur behind the scenes, without pomp or circumstance, and rarely receive the attention or acclaim they rightly deserve. Even the notion of celebrating oneself might seem anathema to the unfailingly modest Aerospace ethos. Fortunately, the President's and Trustees' Awards bring a much-needed spotlight to a few of Aerospace's best and brightest.

On Thursday afternoon in Titan IVA and IVB, eight employees were presented with the corporation's highest honors at the 34th annual President's and Trustees' Distinguished Achievement Awards ceremony.

With the Titan rooms nearly filled to capacity, Dr. Wanda Austin, president and CEO, addressed the audience, speaking about the significance of the awards, the rigorous selection process, and her pride in the recipients. Austin explained that nineteen nomination packages had been reviewed, which comprised nine individuals and ten team nominations. The nominations included representation from all six organizational groups.

Austin thanked the families of the award recipients for their patience and support and acknowledged the awards screening committee, which was chaired by Steven Leontis, principal director, the Weather System Follow-on, Environmental Satellite Systems Division. As the ceremony progressed, Austin exhibited a disarmingly deft sense of humor — playfully exchanging with the award recipients and audience.

The Honorable Robert Walker, board of trustees member and chair of the awards subcommittee, presented the 2013 Trustees' Distinguished Achievement Award to Dr. Donald Lewis, principal director, Strategic Awareness and Policy, Systems Planning, Engineering, and Quality, "for outstanding personal contribution and leadership of Project West Wing into its 56th year of premier space-related technical intelligence service to the nation." He received a stylized crystal eagle's-wings statue and an award of $25,000.

The first, and only, team to be honored with a President's Distinguished Achievement Award comprised Ronald Clifton, director, Performance Modeling and Analysis Department; Marc DiPrinzio, senior engineering specialist, Mission Analysis and Operations Department; Dr. Matthew Ferringer, project leader, Architecture and Design Subdivision; and Timothy Thompson, senior engineering specialist, Performance Modeling and Analysis Department, all of the Engineering and Technology Group, for "execution of a revolutionary constellation replenishment technique, allowing for performance recovery and optimization for a critical national system."

James Ford, principal director, Finance Planning, Analysis, and Reporting, Operations and Support Group, was honored with a President's Achievement Award for "outstanding sustained contributions to Aerospace financial management and corporate operations."

Kenneth Goussak, systems director, System Security Engineering, Space Systems Group was also honored with a President's Achievement Award for "developing an elegant and quickly deployable solution to mitigate a fatal design flaw uncovered in some GPS receivers during SAASM capability deployment, and for avoiding a major disruption in military operations of GPS-enabled platforms."

The last President's Achievement Award was presented to Dr. Patrick Mak, principal director, Defense Meteorological Satellite Program (DMSP), Space Systems Group, for "ensuring the continuity of critical environmental weather data for deployed warfighters."

Austin closed the ceremony with a few remarks, after which the award recipients celebrated with family members and colleagues at a reception in front of A1 before leaving for a private reception and dinner at Verandas in Manhattan Beach.

Austin Announces Merit Raises, New Board Member

by Lindsay Chaney
September 19, 2013

Dr. Wanda Austin announced merit raises and a new board of trustees member during her last CEO's Report of the fiscal year. (Photo: Elisa Haber)

In her final CEO's Report to Employees of the 2013 fiscal year, Dr. Wanda Austin announced a new board of trustees member, recapped technical efforts for the quarter, and discussed the company's financial situation, including approval from the board for merit raises in FY14.

The new trustee is former Secretary of the Air Force Michael Donley, who attended his first board meeting in Colorado Springs last week. Donley headed the Air Force from June 2008 until June of this year with responsibility for recruiting, training, and equipping more than 600,000 military and civilian personnel.

In her recap of technical efforts during the quarter, Austin said Aerospace supported three successful launches: the Mobile User Objective System, or MUOS-2, mission launched from Cape Canaveral on July 19; the Wideband Global SATCOM, or WGS-6, launched from the Cape Aug. 6; and, a national security mission launched from Vandenberg Air Force Base on Aug. 28. All three satellites reached their intended orbits safely and are performing as expected.

Aerospace is continuing to monitor the launch processing of SpaceX's first Falcon 9 (1.1), scheduled for launch on Sept. 30. This is the first of three launches required as part of Falcon 9's certification process to compete for Air Force EELV-class missions.

Austin was upbeat about the company's financial situation next year, saying Aerospace is "well-positioned to manage through anticipated budget requirements."

"This is due," she said, "to our advance planning and the truly exceptional work all of you have done in terms of cost-cutting and careful budget management."

Corporate officers listened intently during the CEO Report. (Photo: Elisa Haber)

But she also warned that as a result of sequestration, "we can expect the focus on meeting budgets and identifying appropriate cost-cutting measures to continue into FY14." The topic of managing costs for FY14 and FY15 was the subject of discussions with the board, she said.

On the matter of merit raises, Austin said several aspects of last year's raises will become permanent changes, in particular the timing of raises for February instead of December and the combination of salary increases with lump-sum payments.

The raises will go into effect in February for two major reasons. First, the raises will occur after the APIP completion process, so that there will be time for the APIP results to be taken into account in making merit raise decisions, thus providing a stronger connection between pay and performance. Second, the delay until February will provide a better opportunity for clarity on customer's needs and Aerospace's overall budget situation.

Using a combination of traditional salary increases and/or lump-sum payments will also become standard moving forward. Austin noted that this combination has been used effectively in industry and provides the company with more options, such as

being able to recognize superior work by individuals whose salaries are already at or above marketplace rates.

Austin noted that medical plan cost changes and merit raises must still be negotiated with the Aerospace Professional Staff Association, more colloquially known as APSA, the union that represents nonsupervisory members of the technical staff.

Turning to another upcoming change, Austin reiterated a few points about the Job Structure Evaluation Project (JSEP). She said that the review of various non-MTS jobs and job categories at Aerospace is to ensure that the job descriptions, compensation, and classification as exempt or non-exempt are up-to-date and comply with current state and federal laws.

Human Resources is in the final stages of the current JSEP phase, and managers and affected employees will be briefed on the results within a few weeks. Austin emphasized that the project is not being done in advance of a reduction in force or as a cost-saving measure, and that any changes in job descriptions, titles, or determination of exempt or non-exempt status has nothing to do with an employee's worth at the company.

"I can't state this strongly enough," Austin said. "Everyone who works at Aerospace is a professional and is critical to our success and to the success of our customers."

Austin reported that Civil and Commercial Operations was recently reorganized to provide an increased emphasis on business development and to streamline management. Among new contracts are one from the National Oceanic and Atmospheric Administration to support the National Climatic Data Center in Asheville, North Carolina; and contract extensions from Japanese customers HIREC and NEC Toshiba Space Systems. A contract renewal with the Japanese Aerospace Exploration Agency, or JAXA, is expected soon.

Theodore von Karman Award plaque. (Photo: The Aerospace Corporation)

On a note of congratulations to the entire company, Austin reported that Aerospace won the Air Force Association's Theodore von Karman Award. She and board Vice Chair Ambassador Barbara Barrett accepted the award on Sept. 16 on behalf of the company.

The award inscription reads as follows:

Air Force Association

Presents

its highest honor in the field of science and engineering

Theodore von Karman Award

to

The Aerospace Corporation

For Distinguished Accomplishment. The Aerospace Corporation is a leading architect of the country's national security space program and a principal technical resource for programs of national significance. For over 50 years, Aerospace has provided independent technical and scientific research, development and advisory services to government and civil customers with the aim of assuring 100% mission success. It is uniquely positioned to bring its immense catalogue of technical expertise and its decades of experience to bear on today's most exciting and challenging problems.

The Aerospace Corporation provides exceptional support to the Air Force and other government and civilian partners on a wide range of innovative projects.

2013

Atlas V Boosts Third AEHF to Orbit

by Lindsay Chaney
September 18, 2013

An Atlas V rocket carrying the third Advanced Extremely High Frequency military communications satellite lifts off from Space Launch Complex-41 on Sept. 18. (Photo: United Launch Alliance, LLC)

An Atlas V rocket boosted the third Advanced Extremely High Frequency (AEHF) military communications satellite to orbit on Wednesday morning, Sept. 18.

From Cape Canaveral, Ray Johnson, vice president of Space Launch Operations, said, “I’m very pleased to announce the successful launch of Atlas V and its AEHF-3 satellite. The vehicle lifted off of Space Launch Complex 41 here at the Cape at 4:10 a.m. (ET) this morning.”

Johnson noted that the launch was delayed a little over an hour because of weather issues. However, “once the weather problem cleared and we launched, it was a very clean flight with no issues.”

Johnson thanked and congratulated both the Atlas and AEHF teams “for this outstanding success.”

The AEHF constellation is a joint-service satellite communications system that will provide survivable, global, secure, protected, and jam-resistant communications. Aerospace has provided crucial support to the AEHF program since its conception as a successor to the Milstar constellation.

The pre-dawn launch was United Launch Alliance’s 75th since it began operations in December 2006 and the 40th mission for an Atlas V rocket since August 2002.

The rocket flew in the 531 configuration with a 5-meter diameter payload fairing, three solid rocket boosters, and one engine in its Centaur upper stage.

Webber, Lindsay Take Associate Principal Director Posts

by Lindsay Chaney
September 10, 2013

Dr. Diana Webber

Dr. Diana Webber has been selected as associate principal director, Ground Engineering Directorate, Ground and Communications Division, National Systems Group (NSG), and Craig Lindsay has been selected as associate principal director, Space Control Directorate, Strategic Space Operations, Systems Planning, Engineering and Quality (SPEQ).

Craig Lindsay

In her new role, Webber is assisting in managing the Ground Engineering Directorate with technical focus on the ground architecture for applications, systems engineering, and mission readiness. Webber joined Aerospace in 2010 as principal engineer on staff to the Computers and Software Division’s (CSD) general manager within the Engineering and Technology Group. Her most recent assignment was associate principal director, CSD.

In his new capacity, Lindsay is leading and managing Aerospace support to space control and space situational awareness

planning, requirements, acquisition and operations functions at Headquarters Air Force Space Command, the Space Security and Defense Program, the Joint Space Operations Center, and the Rapid Reaction Branch of the Space Superiority System Program Office at the Space and Missile Systems Center.

Lindsay joined the corporation in 1991 as a member of the technical staff supporting spacecraft and sensor software development for the Defense

Meteorological Satellite Program in El Segundo.

He most recently served as principal engineer and staff to the senior vice president of NSG.

Aerospace Plays Key Role in Transfer of Landsat 8 Satellite from NASA to USGS

by Lindsay Chaney
September 09, 2013

Earlier this year, NASA transferred operational control of the Landsat-8 satellite to the U.S. Geological Survey (USGS). The event on May 30 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 partnership between NASA and USGS.

As trusted partners of both NASA and USGS, members of The Aerospace Corporation played critical roles in preparation for the timely launch of Landsat-8 in February and the transfer of operational control to USGS. Both milestones were accomplished on schedule and below the program cost baseline, accruing benefits back to both USGS and NASA that can be applied to other important national projects.

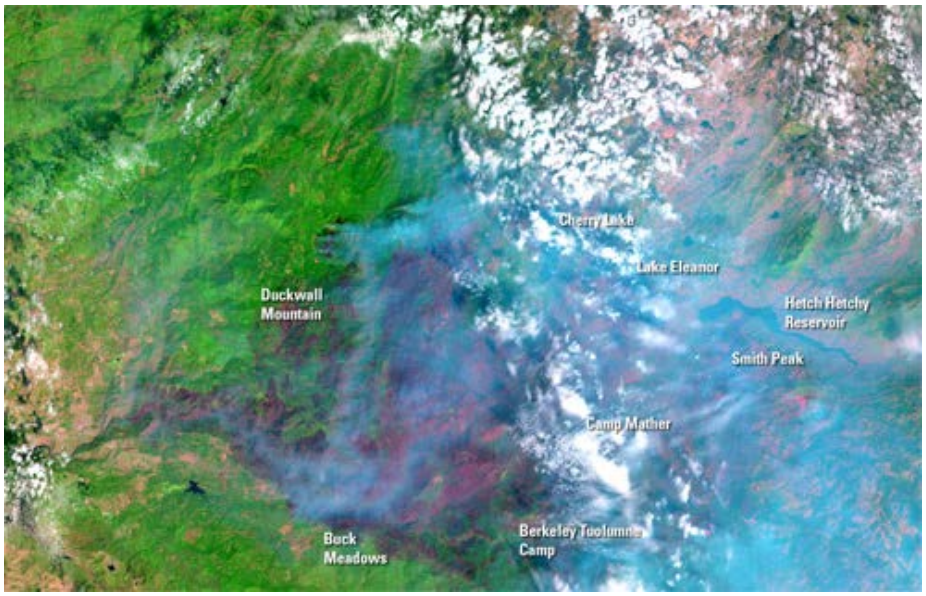

Photo of the Rim Fire near Yosemite National Park taken by Landsat-8 on Aug. 31. The image is false-colored for easy use by emergency personnel. Fire appears bright red, vegetation is green, smoke is blue, clouds are white, and bare ground is tan-colored. (Photo: Landsat-8, USGS)

Aerospace contributions included:

— Kari Wulf and Doug Daniels, as the NASA/USGS co-leads for the transition, coordinated government execution of the myriad details required for transition of the Landsat-8 spacecraft, instruments, and ground system from NASA to USGS — from budget allocations to contractual modifications to reviewing agendas and participants. This coordination began in mid-2012 and culminated with the successful transition on May 30. These leadership roles were in addition to their respective roles since 2005, with Wulf serving as NASA Landsat Data Continuity Mission (LDCM) ground system development and test lead and Daniels serving as USGS LDCM ground system integration lead.

— Pete Phillips, as NASA LDCM mission manager, led the flight operations team in executing the safe, successful commissioning of the Landsat-8 satellite and ground system. He coordinated the documentation, test, and review of any changes to the flight and ground system baselines since launch, and was the NASA lead for the transition of mission operations processes and leadership to USGS. Prior to launch, Phillips was the LDCM operations readiness manager, ensuring the readiness of personnel, processes, and procedures for on-orbit operations. He won the NASA Distinguished Public Service Medal in 2012 for similar work performed for the Suomi National Polar-orbiting Partnership Mission.

— Tim Meisenhelder performed a comprehensive audit of the flight operations training and certification program, enhanced the program design to incorporate lessons learned from on-orbit commissioning and meeting USGS requirements, and revised the training and certification plan to reflect the enhanced program design.

— Steve Covington, Tina Gentry, and Tom Hill conducted an independent assessment of the readiness of USGS to assume operations leadership responsibilities for Landsat-8. Additionally, Tom Hill was a member of the review board for the Post-Launch Assessment Review.

Landsat-8 carries on a long tradition of Landsat satellites that have helped the science community learn how Earth works, understand how humans are affecting it, and make wiser decisions as stewards of the planet. USGS specialists will collect at least 400 Landsat-8 scenes every day from around the world to be processed and archived at the USGS Earth Resources Observation and Science Center in Sioux Falls, S.D. Landsat-8 represents a significant improvement in both data quality and collection capacity over previous Landsat satellites.

Aerospace Plays Major Role in NASA's LADEE Mission

by Lindsay Chaney
September 13, 2013

NASA's Lunar Atmosphere and Dust Environment Explorer satellite launches aboard a Minotaur V rocket on Friday, Sept. 6. (Photo: NASA/Carla Cioffi)

The inaugural launch of Orbital Sciences' Minotaur V rocket on Sept. 6 carried the Lunar Atmosphere and Dust Environment Explorer (LADEE) spacecraft, a mission Aerospace has been supporting for NASA over the past five years.

The late-night launch, lifting off at 11:27 p.m. ET from the Mid-Atlantic Regional Spaceport on Wallops Island, Va., was visible for hundreds of miles up and down the East Coast.

The LADEE mission was designed, built and will be operated from the NASA Ames Research Center in Northern California, where Aerospace maintains an office.

The LADEE satellite will orbit the moon as it measures the lunar atmosphere and dust. Scientists hope the mission will answer a question raised by an observation from Apollo astronauts back in the '60s and '70s. Crewmembers of Apollo 8, 10, 15, and 17 saw pale, luminous streamers pop up over the gray moon horizon about 10 seconds before lunar sunrise or lunar sunset. Back on Earth, we see "twilight rays" all the time as shafts of sunlight penetrate evening clouds and haze. The airless moon shouldn't have such rays, yet the men of Apollo clearly saw them.

Members of the Aerospace Civil and Commercial Programs Division and Engineering and Technology Group played a significant role in this mission and its launch. Robert Bitten provided cost, schedule, and risk assessment during the early formulation phase of the mission dating back to 2008. Dr. Meg Abraham was the lead contamination engineer for integration and test at both Ames Research Center and Wallops. Alisa Hawkins is the Flight Dynamics System lead, in charge of maneuver planning. John Duffy provided analysis and recommendations in securing final spectrum approval from the National Telecommunications and Information Administration for the transceiver prior to launch. Dan Judnick supported requirements verification and validation in the months preceding launch. Dr. Jon Neff leads the Aerospace office at NASA Ames. Aerospace will continue to play a role in the LADEE mission, supporting operations through end of mission in April 2014.

The Minotaur V is a five-stage space launch vehicle designed, built, and operated by Orbital for the U.S. Air Force. It uses three decommissioned Peacekeeper government-supplied booster stages that Orbital combines with commercial motors for the upper two stages.

The launch of NASA's LADEE mission caused a sensation on the East Coast of the United States. This photograph was taken in Annapolis, Md. (Photo: NASA/Ed Campion)

September Obituaries

by Carolyn Weyant
September 01, 2013

Sincere sympathy is extended to the families of:

Micki Alston, office support, hired Feb. 20, 1963, retired April 1, 2004, died July 3.
Silvia Cervantes, administrative secretary, hired Jan. 4, 1982, died Aug. 22.
Lewis Dorough, member of the technical staff, hired May 7, 1962, retired July 1, 1999, died Aug. 4.
John Dunphy, technical support staff, hired May 9, 1980, retired Nov. 1, 1991, died July 30.
Casimiro Garcia, member of the technical staff, hired April 11, 1983, retired Dec. 1, 1990, died July 18.
John Henry, project engineer, hired May 8, 1961, retired Aug. 1, 1988, died July 30.
Don Keenan, member of the technical staff, hired Jan. 5, 1981, retired March 1, 2012, died July 26.
Dale Kind, member of the technical staff, hired July 28, 1963, retired Nov. 1, 1989, died Aug. 14.
Charles Klivans, member of the technical staff, hired Jan. 28, 1973, retired Oct. 1, 1993, died Aug. 15.
Guy Kuncir, project engineer, hired Aug. 14, 1962, retired July 1, 1994, died July 21.
Emily Lorenz, office support, hired Sept. 2, 1960, retired May 1, 1986, died Feb. 1.
Joseph Marssdorf, member of the technical staff, hired Nov. 5, 1979, retired Feb. 1, 1994, died July 26.
Sue Martin, administrative secretary, hired March 19, 1969, retired Sept. 1, 1995, died Dec. 9, 2012.
Richard Miller, member of the administrative staff, hired May 29, 1979, retired March 1, 1987, died Feb. 8.
H. William Nordyke, member of the technical staff, hired Aug. 27, 1962, retired March 1, 1984, died March 26.
Walter Pittman, senior project leader, hired Sept. 13, 1962, retired Sept. 1, 1985, died Aug. 19.
John Urban, project engineer, hired Nov. 28, 1960, retired Oct. 1, 1985, died July 27.
William Wysock, administrative technical staff, hired Aug. 14, 1978, retired June 1, 2012, died July 19.

To notify Aerospace of a death and have it included in the Orbiter, please contact Cynthia Evans in Human Resources at 310-336-5806.

September Notes

by Carolyn Weyant
September 01, 2013

Notes of appreciation to fellow employees and Aerospace for thoughtfulness and sympathy have been received from:

• Christine Stevens, for the recent passing of her father, Conrad Desilets.

• Barbara Tressel, on the recent passing of her mother, Yvonne Tressel.

• Laura Verouden, on the recent passing of her husband, Tani Mikulchik.

• Bruce Wendler, on the recent passing of his father, Harlen Wendler.

To submit a note of appreciation to Aerospace, please contact Valerie Jackson in Human Resources at 310-336-0891.

September Anniversaries

by Carolyn Weyant
September 01, 2013

45 YEARS

Engineering and Technology Group: Karl Westberg

35 YEARS

Engineering and Technology Group: Carl Gran, E Hill, Vincent Hunt, Terrence Lomheim, Ernest Trujillo

Space Systems Group: Julia Carter, Judith Peach

30 YEARS

Engineering and Technology Group: Sophia Chow, Curtis La Mack, Paul Nystrom

National Systems Group: Karl Doty

Space Systems Group: Virendra Mahajan, Lester Ostroy

Systems Planning, Engineering, and Quality: David Eccles, Lubo Jocic

25 YEARS

Engineering and Technology Group: Darlene Covington, William Crain, Tamara Singleton

Operations and Support Group: Mary Bailey, David Hoehn, Elmer Rapay

Space Systems Group: Claudia Cross

Systems Planning, Engineering, and Quality: Todd Beltracchi

20 YEARS

Engineering and Technology Group: Russel Benson

National Systems Group: Thurman Haas

Operations and Support Group: Jackie Webb-Larkin

15 YEARS

Civil and Commercial Operations: William Manly

Engineering and Technology Group: Scott Theiring

Operations and Support Group: Jeanne Campanella

Space Systems Group: Jessica Tucker

10 YEARS

Engineering and Technology Group: Steven Berson, Richard Covington, Jason Fields, John Molis, Man Phan, Darryl Webb, Terence Yeoh

National Systems Group: Karen Jones, Victor Rohr, Philip Schwartz

Operations and Support Group: John Parslow

Space Systems Group: Hiroo Mahtani, Lance Webb

Systems Planning, Engineering, and Quality: Trent Habiger, Matthew Kanter, Lauren Kim, Alex Martin

5 YEARS

Engineering and Technology Group: Patrick Cameron, Tom Chan, Man Lieu, Thomas Wu

National Systems Group: James Northern

Operations and Support Group: Yvonne Fagan, Tina Fulkerson

Space Systems Group: Alexander Ellis, Mark Honda, Dennis Laws, Michael Mantz, Earl Serrato, Frank Tung

Systems Planning, Engineering, and Quality: George Vazquez