

## Aerospace-Mentored Team Wins Cyber Defense National Championship

by Lindsay Chaney  
March 31, 2014

A high school team mentored by three Aerospace engineers has won the top prize in the sixth season of the National Youth Cyber Defense Competition.

Aerospace employees John Nilles, Brad Wilkins, and Michael Jett helped Team Azure from North Hollywood High School become national champions in the competition's open division, topping a field that started with 621 teams.

The national competition, held Friday, March 28, in National Harbor, Md., challenged the teams to defend a virtual network against cyber attacks.

The CyberPatriots program, which runs the national competition, is sponsored by the Air Force Association (AFA). The AFA's board chairman is retired Air Force Lt. Gen. George Muellner, who is also a member of the Aerospace board of trustees.

## WellnessWorks Targets Care for Aging Parents

by Gail Kellner  
March 20, 2014

Advances in medicine, technology, and our ability to adapt to changing conditions have contributed to our increased lifespan, and there are now more Americans who are 65 years old and over than at any other time in our nation's history.

So, is 65 the new 50? Many baby boomers approaching these previously labeled "golden years" are still highly productive members of the workforce, and others are enjoying retirement longer than ever. In fact, some of them are just now finding it necessary to care for their parents, while others have been confronted with making difficult choices this sometimes involves earlier in their lives.

Loli Ramezani, certified senior advisor and owner, Always Best Care Services; and Judith Delany, marriage and family therapist, presented Aerospace employees with information about senior care services and discussed symptoms and illnesses that affect the mind. The topic of eldercare, sponsored by the Benefits Department under the WellnessWorks umbrella, was presented on March 12, and it is so broad that there are layers of services available for every individual case.



From left: Aerospace employees Dr. Roger Metzler and Rosie Duenas take a moment after the presentation to ask questions of Judith Delaney, MFT, and Loli Ramezani, owner of Always Best Care. (Photo: Eric Hamburg)

Ramezani shared insights from Dr. Robert Butler, physician, gerontologist, psychiatrist, and Pulitzer prize-winning author (1927-2010): "This is the first time in human history that the prospect of living a long, healthy, and productive life has become reality for the majority of the people in most parts of the world," Butler wrote.

“As important as it is liberation by health, as powerful as liberation by law, older people must be liberated, too, from stereotypes that limit their horizons. We are in the midst of the wonderful new world of longevity. It is our power to make it a celebration,” Butler said.

## Warning signs of Alzheimer’s Disease

- Memory loss that disrupts daily life.
- Challenges in planning or solving problems.
- Difficulty completing familiar tasks at home, at work, or at leisure.
- Confusion with time or place.
- Trouble understanding visual images and spatial relationships.
- New problems with words in speaking or writing.
- Misplacing things and losing the ability to retrace steps.
- Decreased or poor judgment.
- Withdrawal from work or social activities.
- Changes in mood and personality.

Ramezani’s organization provides in-home care, assisted living placement assistance, and skilled home health care. She discussed the two most common physiological changes in seniors: mobility and memory impairment.

“Every 15 seconds, an adult is treated in ER for a fall, and this can be mitigated,” she said. “Statistics from the Centers for Disease Control and Prevention state that one out of three Americans over 65 falls each year,” Ramezani added.

The second most-common change in seniors is memory impairment, according to Ramezani.

Alzheimer’s is the most feared disease after cancer.

Alzheimer’s disease is an irreversible, progressive illness in which the brain goes through specific changes. Although Alzheimer’s and dementia are terms that are often used interchangeably, dementia is the umbrella that covers all types of cognitive decline, among

which Alzheimer’s disease is the most common, according to Ramezani.

Delaney presented information on recognizing normal and abnormal changes in memory. She said that she not only counsels and educates patients and family members about dementia but she has lived with it herself, explaining that between she and her husband, three out of four parents had dementia.

Delaney points out that dementia is a syndrome (a group of symptoms), not a disease. Such symptoms include disorientation to time and place, difficulty multitasking, short-term memory loss, poor judgment, spatial disabilities, difficulties with abstract thinking, and language problems.

Diseases where dementia occurs include Huntington’s Disease, Parkinson’s Disease, and Alzheimer’s disease, to name a few.

Many of the attendees stayed after the lecture, opting to discuss their challenges and share their knowledge with one another.

Rosie Duenas, senior project engineer, Engineering and Integration Division, said one of the challenges in preparing to care for aging parents is how to constructively communicate with family members on some of these difficult topics. Dealing with the logistics of distance and the constraints of daily work life is also a challenge.

“Preplanning is of utmost importance, since there is not a single go-to source that covers all the answers, finances, facilities, emotional support and medical support,” Duenas said. “I understand the need to start investigating this now.”

“The challenge for me is in getting my parents to admit that they need in-home assistance now, rather than later,” said Howard Carver, security manager, Investigations. “They have been very resistant for this to occur, I think partly due to the realization that their independence is threatened and that the services cost money.”

Unfortunately, a few days after the eldercare lecture, Carver’s mother, fell, was taken to emergency and diagnosed as having a compression fracture in her spine.

“It was only due to this occurrence that my father agreed to sign on to in-home care,” Carver said. “It seems that something major has to occur for some elderly people to seriously consider in-home care and how it can be of benefit,” he said.

For more information on eldercare resources, visit the [Benefits website](#).

## Austin Joins Space Travel Debate Via Skype

by Kimberly Locke  
March 26, 2014

While “Selling Space” may sound like an ad slogan for a store-it-yourself facility, it was actually the theme of a far less “grounded” event, that is, the 2014 Isaac Asimov Memorial Debate: Selling Space, held March 19 at the American Museum of Natural History in New York City.

The panel featured space experts from around the country including Dr. Wanda Austin, CEO and president. Austin, who could not participate in person due to a previous commitment, joined in via Skype. This was a first for both Austin and Aerospace and speaks to the corporation's efforts to reach a broader audience about the importance of and issues with space.

The debate, named after the late biochemistry professor and science fiction author Dr. Isaac Asimov, is hosted annually by the museum as part of its Hayden Planetarium Programs. The sold-out event received heavy traffic from those who joined in on the live stream and who then tweeted and retweeted panelists' remarks and comments to others in the Twitter community.

Debate host and moderator Neil deGrasse Tyson quickly engaged Austin following brief introductions of each panelist. She thanked Tyson for the "opportunity to share what we do at Aerospace," and shared how, as a corporation that operates a federally funded research and development center, Aerospace's job is to help its customer understand the risks in the space business.

After setting the stage, Austin expressed her support of commercial space travel. "Aerospace is excited by the innovative things that are happening in the space business right now," said Austin, and she encouraged the space community to "keep the momentum going."



Dr. Wanda Austin uses Skype to join in on the 2014 Isaac Asimov Memorial Debate: Selling Space. (Photo: Eric Hamburg)

At the same time, though, Austin said it's critical to perform the necessary risk assessments in an effort to mitigate these risks.

Describing commercial trips to space as "an E ticket ride," harkening back to an earlier Disneyland ticket designation, Austin emphasized the importance of being able to return to Earth on that ride to share the experience with one's grandchildren.

She also stressed the importance of considering the lessons learned by NASA, which she said already has sound processes in place, when building the model for safe space travel. Austin referred to the commercial airline industry as a good business model for the commercial space-flight business due to its connection with public safety. And while many can look forward to commercial space travel in the years ahead, Austin emphasized the criticality of ensuring "we understand where the risks are."

Playing devil's advocate, Tyson challenged Austin by downplaying the need for technical advisors such as Aerospace when it comes to commercial space travel. "If someone is prepared to risk his or her life to go into space, why should anyone care what you say about the safety of the launch vehicle?" he asked. "They've got their own engineers, why do they need Aerospace?" he continued.

At that, Austin underscored the corporation's 50-year history of not only identifying space-flight risk but mitigating risk. "It's important to understand when you're just getting a one-way ticket" into space. She also encouraged the audience to keep in mind the public's safety and the need for collision avoidance with other spacecraft in orbit when it comes to space flight.

"We want to make sure it's a good outcome on all sides. It doesn't matter how safe vehicles have been in the past, but how safe is the one you're sitting on," said Austin. She then touched on the fact that Aerospace has the experience to already know many of the risks involved with space travel.

It's important to think about the risks up front, she said, to which Tyson returned a remark about the high cost of doing so. Mission assurance is cost effective, she responded. "It's about five to seven percent of the total cost [of the mission]."

On the topic of relying on reusable launch vehicles or single-use vehicles and how the associated costs play out, Austin responded with her own rhetorical question, "do you want the first car or the 100th car off the line?" and quickly added that the space business is a hard one and that with every DOD mission, new things are learned. Even so, Austin said, there are always unknown unknowns.

She concluded her participation by thanking Tyson for the chance to be on the panel and championed humans' inherent need to explore: "We will explore and we will learn and we will explore some more."

The entire debate, including comments by Aerospace board of trustees member Robert Walker, has been posted on the [museum's website](#).

# Austin Announces New Corporate Officer Positions

by Lindsay Chaney  
March 18, 2014

In her mid-year CEO's Report to Employees, Dr. Wanda Austin announced new corporate officer assignments and a restructuring of the company's cyber business.

Dr. Dave Gorney will be promoted to executive vice president for the corporation and will retain his leadership of the Space Systems Group and will continue to oversee its support staff. Space Program Operations and Space Launch Operations will continue to report into the SSG organization. The executive vice president position was vacated on the retirement of Dr. Joe Straus from that position on July 1, 2008.

Upon the retirement of Mike Drennan, Dr. Wayne Goodman will be promoted to senior vice president, Operations and Support Group (OSG). Goodman is currently vice president of Space Program Operations. With a strategic focus within Aerospace administrative organizations, Goodman will lead a single organization that integrates Finance, Human Resources, The Aerospace Institute, Facilities, Corporate Communications and Public Affairs, Security and Safety, and EEO functions. Current OSG roles and responsibilities remain the same.

Dr. Malina Hills, currently general manager for MILSATCOM, will be promoted to vice president of Space Program Operations, succeeding Goodman.

All corporate officer changes will be effective July 1.



Dr. Wanda Austin displays the latest annual report during her CEO's Report to Employees on Tuesday, March 18. (Photo: Eric Hamburg)



Dr. Dave Gorney will be promoted to executive vice president of the corporation. (Photo: Eric Hamburg)

Austin praised Drennan for his more than 10 years of service to Aerospace, noting that "his leadership and commitment have been an inspiration to us all."

She singled out his leadership during recent corporate challenges, including "shrinking budgets, sequestration, the government shutdown, and a number of culture changes." She also called out his acting skills in popular videos designed to help employees understand how to be smarter healthcare consumers.

In recognition of the growing importance of cyber, Austin said Aerospace will reorganize elements of the Computers and Software Division (CSD) and the Communications and Networking Division (CND) within the Engineering and Technology Group. The Cyber Security Subdivision will move from CSD to CND, and CND will be renamed the Communications and Cyber Division (CCD), reflecting the growing importance of cyber work as that name becomes part of an ETG division title.

CCD will be led by Dr. Robert Frueholz and CSD will be led by Zane Faight.

Austin gave a rundown of Aerospace launch and on-orbit support activity during the last quarter. There was one launch for which Aerospace was fully accountable — the Feb. 21 Delta IV launch of the GPS IIF-5 spacecraft from Cape Canaveral, which was successful. She noted that several more national security launches are planned before the end of the fiscal year.

In addition, Aerospace monitored and analyzed telemetry from two SpaceX Falcon 9 v1.1 commercial launches during the quarter. Both launches may count toward certification requirements for SpaceX to bid for national security payloads.

Aerospace has been involved in defining a follow-on program to the Defense Weather Satellite System program, which was cancelled in December 2011, Austin said. Aerospace is playing a key role in pre-acquisition activities such as planning, system architecture development, and technical requirement analysis. Indications are that federal funding for a new weather program will be included in next year's budget.

Turning to news from Civil and Commercial Operations (CCO), Austin said Aerospace continues to provide highly valued support to NASA, which is the company's third-largest customer. In addition, the National Environmental Satellite Data and Information Service of the National Oceanic and Atmospheric Administration has requested additional support as well. Austin said the company is considering other ways to leverage its technical abilities to solve hard problems for other government agencies, as part of a strategic initiative to support new customers working in the public interest.

Austin said CCO is on track to a goal of \$75 million in revenue with a \$4.9 million margin.

[Click here](#) for a complete transcript of the CEO's report.

Video of complete CEO's Report to Employees is below

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## Aerospace Bruins Gather for Alumni Reception

by Lindsay Chaney  
March 13, 2014



Dr. Vijan Dhir, dean of the UCLA engineering school, gives a raffle prize to Bud Bakeman. Aerospace Senior Vice President Rami Razouk is at left. (Photo: Elisa Haber)

A reception for Aerospace alumni of the University of California, Los Angeles on Tuesday, Feb. 25, attracted more than 100 employees, who had a chance to meet with a handful of UCLA faculty members, students, and the dean of the Henry Samueli School of Engineering and Applied Science.

Dr. Vijay Dhir, dean of the engineering school, did what university officials are expected to do when they meet a group of gainfully employed alumni — he pitched them for contributions to their alma mater.

Dr. Rami Razouk, senior vice president of The Aerospace Corporation, discussed the collaboration and partnership between UCLA and Aerospace and the impact the school has had on the company. That includes 434 UCLA graduates who together hold 636 degrees and amount to 11 percent of the company's employees.



Dr. Rami Razouk chats with fellow UCLA alums at the Aerospace reception. (Photo: Elisa Haber)

## Gen. Shelton Says Don't Retreat on Mission Assurance

March 11, 2014

Gen. William Shelton, commander, Air Force Space Command, on Tuesday gave a strong endorsement of mission assurance processes on national security space launches, even in the face of budget constraints.

Shelton made his remarks Tuesday, March 11, during a keynote speech to a general meeting of the Florida Committee of the National Space Club in Cape Canaveral, Fla.

Shelton's speech on Department of Defense and Air Force space programs covered the topics of budget challenges, new technology, the continual need for new studies, and the new entrant certification process for national security launches.

Shelton emphasized that picking a launch provider for national security payloads involves more than finding the lowest bidder for a job, which is why a certification process has been set up for new entrants to demonstrate they are capable of doing the job successfully.

Shelton noted that the requirements for an Air Force launch are more rigorous than for a NASA launch, commenting that the loss of a space station resupply mission would be unfortunate, but relatively easily replaceable. However, the loss of an Air Force satellite would involve loss of defense capability for years while a new, expensive, replacement is being readied.

For that reason, he said, it is critical to preserve mission assurance work, even if budgets must be trimmed.



Marvin "Butch" Gardner, left, principal director of the Eastern Range, with Gen. William Shelton. (Photo: Bill Uttenweiler)

# Celebration Marks Elaine Lydon's Retirement After 40 Years

by Kimberly Locke  
March 07, 2014

When Elaine Lydon joined Aerospace in 1973, the corporation was 13 years young. Dr. Ivan A Getting, founding president, was at the helm and would continue to lead the corporation until his retirement in 1977.

And now, on March 7, 2014, just a day after friends and colleagues gathered on the fourth floor of A1 in El Segundo to share laughs and memories, Lydon's more than 40-year career at Aerospace has ended.

There were no official speeches, as Lydon wanted it that way. A somewhat private person, she preferred to visit with friends, old and new, on more of an individual basis.

Lydon, who joined the corporation as a senior secretary after working for some 13 years at U.S. Steel, has spent most of her Aerospace career supporting the Engineering and Technology Group business director role, currently filled by Bob Shintaku.



Dr. Wanda Austin helped Elaine Lydon celebrate 40 years at Aerospace. (Photo: Elisa Haber)

When Lydon arrived at the corporation to support the Advanced Ballistic Reentry Systems Program, women in the U.S. were beginning to establish a foothold in the professional work environment and Aerospace women were no different. It was in 1974 that the Aerospace Women's Committee was established to represent all Aerospace women by serving as a resource for personal and professional growth.



A pillow gift, made by Bonnie Harkenrider, will serve as a memento for Elaine Lydon. (Photo: Elisa Haber)

She still remembers some of Aerospace's recreational features such as a shuffleboard court and putting green that used to be located between the A2 and A3 buildings.

When asked what she'll miss most about no longer working at Aerospace, Lydon replied, "The people, I like the people I work for and with and I'll miss them."

Having worked for nearly 60 years, Lydon admits it will be quite a change not to have to get up at a certain time to get ready for work. But, it's a change she's looking forward to as she finalizes her plans to return home to Chicago's suburbs.

And what about having to handle Chicago's often severe weather? "I'll just pull the covers over my head and stay in bed until I feel like getting up," she said with a dismissive smile.

# Awards and Recognitions — March 2014

by Matthew Kivel  
March 04, 2014

Aerospace employees frequently earn recognition for their professional accomplishments. This Orbiter feature will acknowledge those honors and awards, including the publication of books. To nominate someone for consideration in this section, send details of the award in a timely fashion to [orbiter@aero.org](mailto:orbiter@aero.org), or contact Matt Kivel at [matthew.k.kivel@aero.org](mailto:matthew.k.kivel@aero.org). Include a photo related to the award, if available.



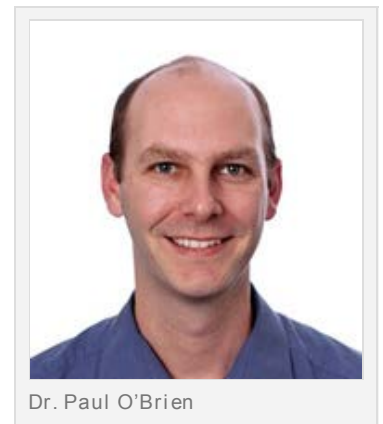
## Dr. Richard Walterscheid and Dr. Paul O'Brien

The NASA Silver Achievement Medal was awarded to the Lightning Advisory Panel at the 2013 Honor Awards Ceremony at the KSC Debus Center on Feb. 25. Aerospace's Dr. Richard Walterscheid and Dr. Paul O'Brien, both of the Space Science Applications Laboratory, are members of the panel and were recognized along with the other LAP members.

NASA awards the Silver Achievement Medal to government and non-government individuals or teams for "a stellar achievement that supports one or more of NASA's Core Values, when it is deemed to be extraordinarily important and appropriate to recognize such achievement in a timely and personalized manner." NASA's core values are: Safety, Excellence, Teamwork, and Integrity.



Dr. Richard Walterscheid



Dr. Paul O'Brien

Walterscheid joined Aerospace in 1979. His areas of expertise include research on the dynamics and physics of the upper atmosphere and applications to launch support, satellite drag, vehicle re-entry, and optical backgrounds. O'Brien started working at Aerospace in 2002. His main area of expertise is radiation belt physics.

## Carlose Green, Bernard Jefferson, and Cedric Mann

Three Aerospace employees were honored at the 28th annual Black Engineer of the Year Awards (BEYA) STEM Global Competitiveness Conference in Washington D.C. that was held Feb. 6 – 9 at the Wardman Marriott Park Hotel. Dr. Wanda Austin, Aerospace president and CEO, was the keynote speaker at the Modern Day Technology Leader luncheon on Feb. 7.

Bernard Jefferson, associate systems director, ETG, was honored with the Science Spectrum Trailblazer award at the Trail Blazer Awards dinner on Feb. 6. The award is given to "minority men and women who are actively creating new paths for others in science, research, technology, and development."



Carlose Green, project engineer, SSG, and Cedric Mann, systems director, NSG, received the Modern Day Technology Leaders award at the MDTL luncheon. The award is given to “bright women and men who are shaping the future of engineering, science and technology,” focusing upon early career professionals with 15 years or less of experience.

Cedric Mann joined Aerospace in 2008. His focus area is signal processing and product quality. Carlose Green has been with Aerospace since 2000.

He is a project engineer in the Advanced Extremely

High Frequency program office, supporting the Systems Engineering, Integration, and Test (SEIT) Directorate. Green serves as the technical POC for all Milstar and AEHF terminal integration issues within SEIT. Bernard Jefferson started at Aerospace in 2003 and is an expert in power systems engineering (spacecraft batteries, solar arrays, bus voltage regulation, power distribution, and energy balance analysis at the system level). He is currently the associate director of the Electronics and Power Systems department.



Cedric Mann



Bernard Jefferson



Carlose Green

## The Aerospace Corporation Wins Training Award



Dr. Anita Polite-Wilson and Albert Hoheb with the Training Top 125 award.

The Aerospace Corporation ranked number 82 in Training magazine’s Training Top 125 organizations with the most successful training and development programs in the world.

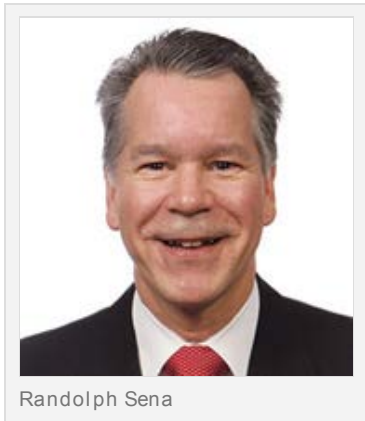
The rankings were announced Monday, Feb. 3rd at an invitation-only, black-tie ceremony. Albert Hoheb and Dr. Anita Polite-Wilson accepted the award on behalf of the corporation.

Aerospace was nominated for its workforce development activities performed by its corporate university, The Aerospace Institute, and its Human Resources Division. This year marks TAI’s 20th anniversary of delivering corporate training for technical and business education, and leadership development. The technical curriculum includes mission assurance, space systems architecting, acquisition, and technologies and engineering disciplines associated with space missions and systems.

For more than 10 years, Training magazine’s Training Top 125 award winners have been organizations with the most successful learning and development programs. All applications were judged by an outside research company, by Training magazine’s editor-in-chief, and by the Top 10 Hall of Famers that appeared in the top ten of the Training magazine’s Top 125 for four consecutive years.

# Sena Leads Space Systems Directorate

by Lindsay Chaney  
March 04, 2014



Randolph Sena has been promoted to principal director of the Space Systems Directorate, Navigation Division, Space Program Operations, Space Systems Group (SSG).

In his new position, Sena provides technical leadership and management of Aerospace support to the Global Positioning System (GPS) IIF, GPS III, and the Nuclear Detonation Detection System programs within the Navigation Division at the Space and Missile Systems Center.

Sena joined the corporation in 1978 as a summer hire in the Control Analysis Department, Engineering and Technology Group, and became a full-time member of the technical staff.

He most recently served as the associate principal director for the Navigation Division, SSG, with a focus on the GPS III Program.

# Propulsion Lab Construction Takes Off

by Laura Johnson  
March 03, 2014

Aerospace is building a new laboratory that will allow safe testing of propulsion systems. With a symbolic flip of their chrome-plated shovels, Aerospace executives officially started the construction of the new building on Feb. 18.

“The Propulsion Research Facility will enable us to safely and efficiently test and research space propulsion systems that will be used in national security space systems,” said Dr. Sherrie Zacharius, the vice president of Technology and Laboratory Operations, during the groundbreaking ceremony.

The main testing lab will be constructed of reinforced 16-inch thick concrete walls and roof for high energy system containment. There will also be a chemical and propellant preparation lab, as well as a laser lab for diagnostics for combustion characterization.

The new building will be 1,300 square feet, and adding in the courtyards for gas storage brings the total area to 4,000 square feet.

“With this enhanced testing ability located conveniently here onsite, we will be able to provide even greater support to our customers, continuing the well-recognized expertise we’ve been providing for more than five decades,” Zacharius said.

Dr. Wanda Austin, Aerospace president and CEO, agreed that the facility will help Aerospace’s customers.

“The inception and construction of the Propulsion Research Facility is just the latest manifestation of Aerospace’s commitment to assuring mission success through innovation and delivering value,” she said. “The increased capability and efficiency that will be realized through this facility will give the company even greater flexibility to meet the needs of our customers for years to come.”



Left to right: Dr. Wanda Austin, Dr. Sherrie Zacharius, Dr. Rami Razouk, Dr. Jeff Emdee, and Dan Barbee. (Photo: Eric Hamburg)

# March Notes

by Carolyn Weyant  
March 01, 2014

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

Suzanne Brooks and Laurie Tracey, on the recent passing of their father, William Perry.  
Ruby Gill, on the recent passing of her mother, Mertha Mitchem.  
Ron Hopkins, on the recent passing of his mother, MaryLou Hopkins.  
Shirley Tanaka, on the recent passing of her sister, Lucy Schmitz.

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

# March 2014 Obituaries

by Carolyn Weyant  
March 01, 2014

Sincere sympathy is extended to the families of:

Thelma Estrin, board of trustees' member, served Dec. 29, 1978, through Jan. 12, 1981, died Feb. 15.  
Elizabeth John, buyer, hired Jan. 3, 1978, retired Aug. 1, 1990, died Jan. 25.  
Norman Katz, research engineer, hired Dec. 12, 1966, died Feb. 14.  
Idelle Landrum, office support, hired Dec. 14, 1964, retired Aug. 1, 1974, died Feb. 19.  
Orin Mead, project engineer, hired Aug. 12, 1965, retired Feb. 1, 1990, died Jan. 20.  
Tony Silva, systems director, hired Sept. 18, 1961, retired Aug. 1, 1984, died Jan. 30.

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

# March 2014 Anniversaries

by Carolyn Weyant  
March 01, 2014

## 40 YEARS

Engineering and Technology Group: Donald Olsen

## 35 YEARS

Operations and Support Group: Anthony Atkinson, Raquel Read

Space Systems Group: Charles Sprague

## 30 YEARS

Engineering and Technology Group: Shirley King, Johnson Wang

Operations and Support Group: Patricia Williams

Space Systems Group: Timothy Bixler

## 25 YEARS

Engineering and Technology Group: Margaret Muelhaupt

National Systems Group: Metta Tanikawa

Space Systems Group: Robert Barnhart, Glyn Bass, Leslie DeCloedt, Sumner Matsunaga, Jeffrey Wong, Marc Zaharchuk

## 15 YEARS

Engineering and Technology Group: Jeffrey Caplin, Robert Pettit, Peter Pollock, Dean Sklar

Operations and Support Group: Kathleen McGinnis, Jonathan Wedhoff

Space Systems Group: Robert Ettenger

## 10 YEARS

Engineering and Technology Group: James Hicks, Wayne Wheeler, Frank Wong

Operations and Support Group: Carolyn Weyant

Systems Planning, Engineering, and Quality: James Vedda

## 5 YEARS

Engineering and Technology Group: Donald Hall, Joseph Kamkar, Darren Rowen

National Systems Group: Leo Mallette