Aerospace Retirees' Club to Host Second Virtual Party June 25

May 28, 2021

The Aerospace Retiree's Club (ARC) will host its second virtual party on June 25. This party follows a successful virtual holiday party hosted by ARC last December. At that event, close to 200 retired Aerospace employees gathered via Zoom to socialize in small groups and to congregate all together in a large group to hear talks by the Aerospace CEO, CFO and Benefits.

Given the feedback following the party, most people thoroughly enjoyed the event, especially the ability to connect with former friends and colleagues across the nation. Most asked for ARC to sponsor another such event, even in a post-COVID era.

For the June party, we plan on socializing in small groups (Zoom breakout rooms); coming together to view two short videos of Aerospace activities in Colorado; then for the highlight of the program, Jay Santee, vice president of Strategic Space Operations, will speak on the newly formed Space Force and Aerospace growth in both Los Angeles and Colorado Springs to support the new military branch. This will be followed by some ARC highlights, a raffe, and to close out the program, guests will be treated to a final session of socializing in small groups.

All retirees are invited. ARC members will receive a formal invitation, and other retirees can request registration information at aeroretirees@gmail.com. Please forward this invitation to other Aerospace retirees who may not otherwise receive this invitation.

ABC, AMV Event Discusses Lifting Every Voice on the March Toward Equality

May 26, 2021

Tuesday marked the one-year anniversary of the death of George Floyd. In remembrance of the tragedy and to further the important dialogue of diversity, equity and inclusion (DEI) underscored by his death, the Aerospace Black Caucus (ABC) and Aerospace Military Veterans (AMV) hosted a virtual event to provide Aerospace employees an opportunity to reflect on the what has transpired since and the work still to be done in addressing systemic injustices and inequality.

“Let’s all be the change we want to see,” said Steve Isakowitz, President and CEO of Aerospace, who was in attendance. “I hope Aerospace is a place where we can feel safe to have these kinds of conversation, and all work together to be a shining example of what’s possible and extend that to our communities and our neighbors.”

To initiate the discussion, ABC President Sherrica Holloman read aloud an op-ed penned by Aerospace Board of Trustees Member Lt. Gen. Vincent Stewart, sharing the adversities he has had to overcome as a person of color to foster better understanding of the anger, frustration and despair of the black community.

“I would encourage you to think about a man who was born outside of the United States, moved to the United States, and for all its flaws, also wants to make it a better place,” said Marty Whelan, Senior Vice President of the Defense Systems Group (DSG), who provided the opening remarks. “If you can think about his thoughts and how each of us can make this a better place, I think we’ll all be better served from listening to his words.”

His article, “Please, Take Your Knee off Our Necks So We Can Breathe,” calls for “those in positions of power and privilege to recognize the experiences of your fellow Americans who do not look like you, and to take real, specific actions to uplift others.”

“Lift Every Voice Til Victory is Won” was the theme of this year’s African American History Month.

“The Black National Anthem is ‘Lift Every Voice’ and it characterizes the continuing efforts toward equity and inclusion for African Americans, which was spotlighted again with the murder of George Floyd one year ago today,” Holloman said. “The efforts toward equity and inclusion proved even more pressing with the recent demonstrations of hate and violence against our fellow Asian Americans. Even though today’s event is in honor of African American history and military appreciation, it also honors our collective march toward equality.”

Participants were then asked to respectfully hold an extended moment of silence for 9 minutes and 29 seconds to reflect on Stewart's words and their own feelings.

"60 years ago, we were fighting for basic civil rights and we're still fighting today," said Sonia Henry, Vice President of ABC. "Our parents wanted better for us, but now we are still fighting for better for our children. Things have changed but they are very much the same. 'The time is now' is still relevant for permanent change. Victory is won when we stop distinguishing the differences on the basis of race, age, gender, ability and other reasons because other stories are not ours and deal with everyone with respect,dignity and love."

Lt. Gen. Vincent Stewart, Member of Aerospace's Board of Trustees

Stewart, who served in the U.S. Marine Corps for more than 38 years, including as Deputy Commander U.S. Cyber Command, Director of the Defense Intelligence Agency (DIA), as well as having overseen the global defense intelligence enterprise, had originally been scheduled to provide a keynote address as part of Military Appreciation Month. While he was unable to attend due to unforeseen events, Stewart shared a message to those in attendance.

"As we move slowly on this march toward equality, a march that began in the early days of our republic, laid bare by the awful civil war, through the terrible massacre in Tulsa, Oklahoma, and through the civil rights movement of the '60s and now, a moment for us," he said. "How will this moment shape our future? Will we be remembered for having taken a stand? For answering the call for justice and liberty for all?"

Stewart encouraged everyone to do their part by ensuring fair legislation at all levels of government, as well as making the effort to educate children, have hard conversations with colleagues in different demographics, be a good person to all whom you encounter, invest in the underserved portions of society.

"Keep the pressure on and never give up on the ideals of America. Emphasize the telling of the history of America, warts and all," he said. "Those that distort the past will never learn the valuable lessons from their experience. Study, challenge and revise."

Atlas V Launch Delivers Fifth Satellite to Space Based Infrared System Constellation

May 24, 2021

An Atlas V launch vehicle lifted off from Space Launch Complex 41 on May 18 and successfully delivered the fifth Space Based Infrared System (SBIRS) Geosynchronous Earth Orbit (GEO-5) satellite to orbit. The SBIRS constellation provides global persistent, infrared surveillance in support of four national security mission areas: Missile Warning, Missile Defense, Technical Intelligence and Battlespace Awareness. The GEO-5 satellite is the first military satellite built on the Lockheed Martin modernized 2100 Combat Bus. All five SBIRS satellites have been launched on United Launch Alliance Atlas V rockets.

Photo Credit: United Launch Alliance

The mission also included two 12U Multi-Manifest Satellite Vehicles (MSVs), EZ-3 and -4, provided by the U.S. Air Force Academy, which were carried in integrated multi-manifest carriers mounted on the Centaur CubeSat Express Aft Bulkhead Carrier. The two MSVs were successfully released shortly after completion of the first Centaur burn, prior to the deployment of the SBIRS space vehicle.

The launch, originally scheduled for May 17, was delayed one day to allow the launch team to address a concern with the liquid oxygen ground system that arose during the original launch attempt. This launch marked the 87th successful launch of an Atlas V rocket, the 144th launch for United Launch Alliance (ULA), the fourth 421 configuration vehicle and the first Atlas V mission in 2021.

As with prior National Security Space missions, Aerospace personnel conducted independent analyses and evaluations of the flight systems, working with the USSF to augment United Launch Alliance's mission assurance process to ensure the continued National Security Space Launch program's legacy of 100% mission success. Special attention was placed on first flight hardware items implemented for performance improvements and/or cost savings. The efforts included close engagement with ULA to close out several late breaking issues that delayed the roll to pad and booster fuel loading operations by one day, to May 15.

Photo Credit: United Launch Alliance

“My sincere thanks to our SMC and Aerospace teammates for your commitment to make the SBIRS GEO-5 launch a success!” Col Erin Gulden, Mission Director for the Atlas V SBIRS GEO-5 mission and Launch Enterprise chief of the Atlas V and Delta IV Division at the U.S. Space Force’s Space and Missile Systems Center, said of the team’s effort. “Your diligence culminated in the delivery of a vital missile warning and situational awareness satellite and showcased flexible satellite integration and rapid responsiveness with the on-orbit insertion of the EZ-3 and EZ-4 payloads. Excellence isn’t achieved by accident. It is the result of setting high expectations and relentlessly pursing precision execution. Thank you for your unwavering commitment to excellence, outstanding teamwork, and selfless service to a grateful nation.”

The next Atlas V mission will be STP-3 in late June.

Written by Mark A. Brosmer, PhD, General Manager, Launch Operations Division, The Aerospace Corporation.

Take a Virtual Tour of Aerospace's Optical Comm Lab

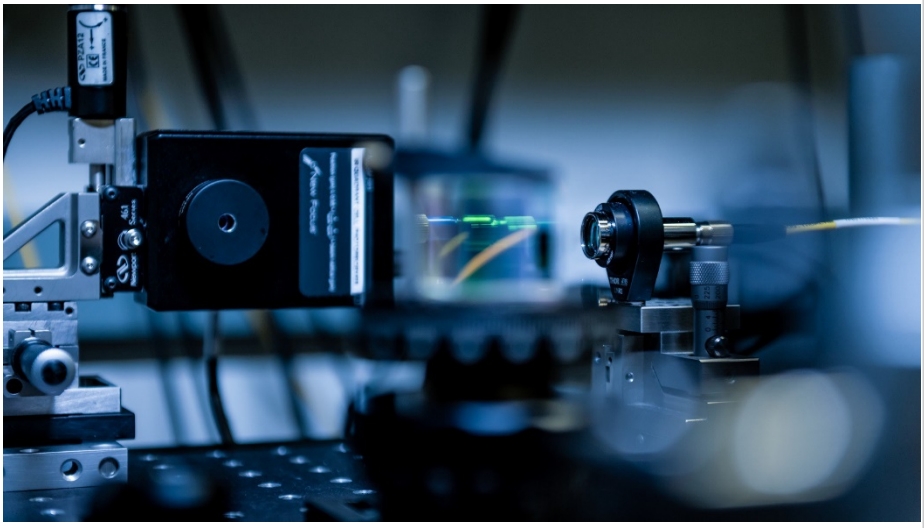
May 18, 2021

The Aerospace Virtual Tours allow you to digitally navigate through some of our world-class labs to learn more about the innovative and complex work our experts do every day to advance space capabilities. Be sure to check out what other virtual tours are available on Aerospace.org.

Communication is critical for satellites. Optical communication uses a laser to transmit information instead of the traditional method of using radio frequency waves. Optical communication is smaller, lighter, uses less power, and provides increased security and much higher data rates.

In Aerospace's labs, we are working on validating next generation laser transmitters and detectors. Laser beams are very narrow and so we also work to develop the precision pointing and tracking that is critical for fast-moving satellites in space.

We test our laser communication systems by flying them on our CubeSats, and receive the signals at our



ground stations, including the Optical Comm Dome on the roof of our El Segundo, CA labs. We also have mobile optical ground systems.

There is a constant need for faster, lighter, and better satellite communications systems. Explore our labs and ground stations through the **Optical Comm Virtual Tour** to see what we're doing to make that happen.

Aerospace Employees Share Poignant Experiences at AAPAA Heritage Event

May 17, 2021

Featured in The Manzanar Fishing Club documentary, this photo shows Aerospace employee Sandy Yonemoto's father (right), grandmother (center), uncle (left), and grandfather (partially out of frame) during their time at the Manzanar War Relocation Center.

The Aerospace Asian Pacific American Association (AAPAA) hosted its annual Heritage Event on Wednesday, featuring a discussion and viewing of select scenes from *The Manzanar Fishing Club*, a documentary about the internment of Japanese Americans at the Manzanar Relocation Center during World War II.

In recognition of Asian American Pacific Islander (AAPI) Heritage Month and with consideration of the recent spike in anti-Asian hate crimes, AAPAA took a different approach with this year's event to provide Aerospace employees an opportunity for more learning, sharing and understanding.

"In years past, we've had purely celebratory events and big performances," said Jake Singh, national president of AAPAA. "This year we wanted to shift the focus a little bit away from the pure celebration and more to education and awareness."

AAPAA executive sponsor Tammy Choy provided opening remarks, noting this year marks the 80th anniversary of the Attack on Pearl Harbor, which led to the United States entering WWII, and ultimately the decision to forcibly relocate or incarcerate over 120,000 Japanese Americans into internment camps for nearly four years.

"We're now at the 14th month mark, a little bit over a year of living through the COVID-19 pandemic," Choy said. "I am certain all of us are going to remember for the rest of our lives how it affected and changed how we interact with each other, our fears — we feared for ourselves, our families, our communities. Now, think about the Japanese Americans who were on the West Coast in 1942. They had a week to decide what they were going to carry with them to camp — literally, what they could carry. The lucky ones had the kindness

of neighbors to watch over what they had, but many of them lost everything. Then they were relocated to really sparse internment camps with little to no privacy, and almost no way to reach loved ones. Compared to our 14 months of surviving a pandemic, they would still have another year and a half to go."

Several employees shared how the period directly affected their lives, having had close family members who experienced the internment camps firsthand. Sandy Yonemoto, director of People Experience and facilitator for the event, only recently discovered the documentary includes a photo of her father, uncle and grandparents during their internment at Manzanar.

(From the Manzanar Fishing Club)

The Manzanar Fishing Club, which was produced by Aerospace video manager Lester Chung, was awarded the "Certificate of Congressional Recognition" in 2012 and was funded in part by grants from the California Civil Liberties Public Education Program and the Japanese American Confinement Sites Grant Program.

"While my mom and her family were sent to the Gila River camp in Arizona, my dad and his family were sent to the Manzanar War Relocation Center in California," Yonemoto said. "My parents went from living in a suburban community in their family homes … to being packed up like sardines on busses and living in flimsy wooden shacks. They tried to make the best of it, and to this day, I think about that when I feel stressed or upset about something. I think that if they can make the best out of a horrible, awful situation like that, I owe it to myself and my daughters to live our lives that same way."

Yonemoto added that her parents' experience in the internment camps instilled in them a commitment to giving back to their community, becoming active philanthropic volunteers and passing those values down to future generations.

"I think what goes around comes around in a way," she said. "My family tried to make the best of a terrible experience and situation, and made sure that their children understand and play a role in moving forward with a positive outlook and prioritizing inclusion in everything that we do."

Editor's Note: *Some quotes have been edited for length and clarity.*

Aerospace's CORDS Discusses Long March 5B Reentry

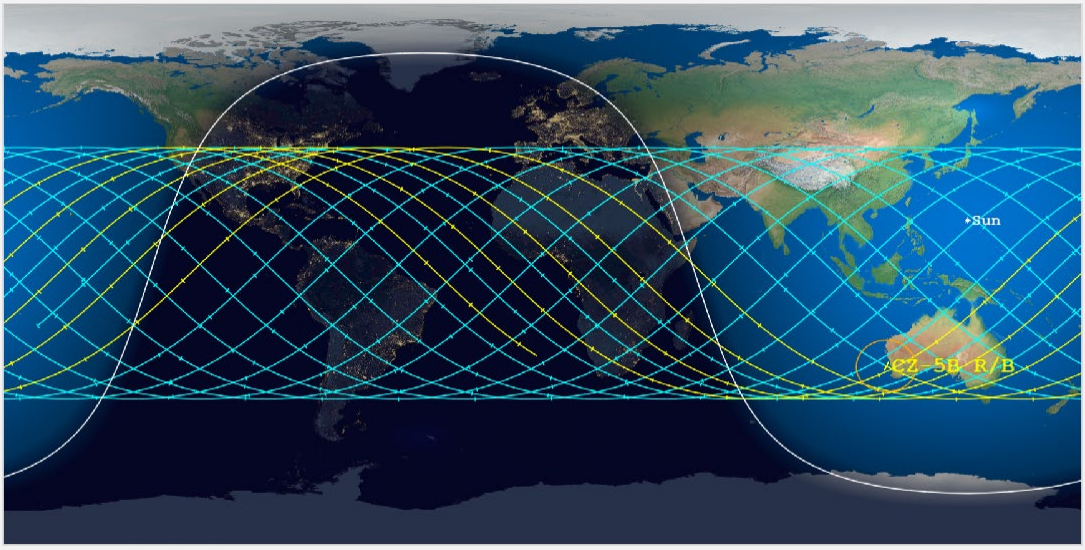
May 06, 2021

The Chinese Long March 5B successfully launched the core module of China's irst space station. Now the empty rocket body is plummeting towards Earth. [Photo Credit: CASC]

The Aerospace Corporation recently published the following interview withMarlon Sorge of Aerospace's Center forOrbital and Reentry Debris Studies (CORDS) on Medium.

A large Chinese rocket stage is expected to reenter Earth's atmosphere in the coming days and experts are concerned about the potential impact of the debris.

The Long March 5B successfully launched a 22.5-metric-ton core module of China's first space station last week. During the launch, the first stage of the Long March 5B also reached orbital velocity instead of falling downrange as is common practice. That placed the empty rocket body in an elliptical orbit around Earth where it is being dragged toward an uncontrolled reentry in the coming days.



The reentry prediction for the Long March 5B rocket body from the Center for Orbital and Reentry Debris Studies. Note: The ground traces shown in the above image extend the full uncertainty window.

The rocket stage's orbital inclination of 41.5 degrees means that reentry can be as far north as Chicago, New York City, Rome and Beijing and as south as New Zealand and Chile. That places any of those locations within the potential reentry path of this giant piece of space junk measuring 98 feet long and 16.5 feet wide and weighs 21 metric tons.

The Center for Orbital and Reentry Debris Studies (CORDS) at The Aerospace Corporation is tracking the Long March 5B reentry. We spoke with Marlon Sorge, CORDS principal engineer about how the situation developed and what happens next.

How often does an uncontrolled reentry of this size occur? Have there been other instances that compare?

Sorge: This stage and its predecessor last May are the sixth and seventh largest objects to ever reenter. The mass of this core stage is 21 metric tons.

The list of other comparably-sized objects that have reentered includes early space stations — like Mir, Skylab, Salyut 6 and 7 — and the Saturn V second stage that launched Skylab. These represent a mix of controlled and uncontrolled reentries, however.

What normally happens with a rocket stage like this and what was different this time?

Sorge: Normally the first stage of a rocket and its strap-on boosters are not designed to reach orbit. Their trajectories are planned so that the stage and any strap-on boosters fall into a safe area, usually in the ocean. In this case the first stage core of the rocket reached orbit. That means that it was no longer able to control where it would reenter without a deorbit maneuver.

What is a "deorbit maneuver"? Could that have been attempted?

Sorge: A deorbit maneuver uses a satellite or rocket stage's engines to drop the low point of its orbit to choose where it hits the earth. This is called a controlled reentry. By doing this a large object can be targeted for an unpopulated region of the ocean where its debris will not injure anyone. The ability to conduct a deorbit maneuver is dependent on the design of the vehicle and the mission. It is not uncommon for rocket operators to plan for deorbit maneuvers and controlled reentries as large rocket stages tend to pose larger risks to people on the ground.

How much of the Long March 5B rocket stage is expected to survive reentry and reach the Earth's surface?

Sorge: The general rule of thumb is that 20–40% of the mass of a large object will reach the ground, but the exact number depends on the design of the object. In this case, we would expect about five to ten metric tons. Generally, for an upper stage, we see small and medium tanks survive more or less intact, and large engine components. The large tanks and the skin of this core stage are likely to come apart. We will also see lightweight material such as insulation fall out. The melting point of the materials used will make a difference in what remains. You can learn more here.

How likely is it that I will get struck by space debris from this reentry? As of right now, do we know where the debris is likely to land?

Sorge: The probability that any random reentry will land in the ocean is about 3:4, since the Earth is about 75% covered by oceans. Also, the majority of the land mass is either uninhabited or lightly inhabited: deserts, mountains, forests, and open prairie, farms, or grasslands. The probability that a piece of space debris will land on a city or a densely populated area is usually relatively small. What makes this reentry particularly noteworthy is that it will occur between 41.5 deg N and 41.5 deg S latitudes, where the vast bulk of the world's population lives.

However, the statistical risk to any one person of being struck by falling space debris is so low that a colleague of mine jokes that if reentry predictions put his house directly under the path, he'd go out with a camera and watch.

What can the space industry be doing to avoid these types of uncontrolled reentries from happening in the future?

Sorge: There are established methods for analyzing the reentry breakup of any object we launch into space and determining the casualty risk to people on the ground. If the risk exceeds a threshold, one should mitigate the risk by either altering the design or changing the reentry. For rocket stages, this usually means planning a controlled reentry into a broad, open area such as an ocean — the southern Pacific is a common target. Controlled reentries, particularly for a large object, require considerable planning and will have a significant impact on the design and payload capacity of the stage. Nevertheless, this is a preferred approach in international standards and is rapidly becoming a global norm.

Update:

(Click to view post on Twitter)

Delta IV Heavy Launch of NROL-82 Successfully Hits the Bullseye

May 04, 2021

On April 26, at 1:47 p.m. PDT, the 13th Delta IV Heavy launch vehicle lifted off from Space Launch Complex-6 (SLC-6) at Vandenberg Air Force Base (VAFB), precisely delivering the NROL-82 payload to its desired orbit. All launch vehicle systems performed as expected throughout the flight, once again delivering on the promise of mission success.

The Aerospace Corporation supported the mission, which was the first launch from VAFB in over two years.

Photo credit: United Launch Alliance

As such, and in light of the various ground system issues that drove delays to the Delta IV NROL-44 launch from Cape Canaveral Space Force Station last fall, special attention was applied to the launch infrastructure.

Aerospace personnel engaged with the United Launch Alliance (ULA) and the U.S. Space Force in a deep-dive review of the SLC-6 ground systems.

The lessons learned from NROL-44 and other upgrades implemented by ULA were critical to avoiding launch delays, ultimately enabling the launch to lift off at the first opportunity last Monday.

The customer was very pleased with the performance of the mission, as well as the effort that led up to the launch. “My personal thanks and congratulations to the entire NROL-82 team!,” Col Erin Gulden, Launch Enterprise senior materiel leader and chief of the Atlas V and Delta IV Division at the U.S. Space Force’s Space and Missile Systems Center, said of the team’s effort. “The integrated team’s commitment and

attention to details across the entire launch enterprise system ensured a bullseye insertion of this critical national security payload."

Photo Credit: United Launch Alliance

In a special tribute to a long-time Aerospace employee, the mission was dedicated in part to Ross Kobayashi, who led the NRO Office of Space Launch (OSL) Mission Assurance Team for 13 years.

This was the 42nd launch of a Delta IV launch vehicle, the 14th for the National Reconnaissance Office.

The mighty Delta IV Heavy is slated to launch three more times before it is replaced with the next generation of launch systems, with the next launch slated for the summer of 2022.

Written by Mark A. Brosmer, PhD, General Manager, Launch Operations Division, The Aerospace Corporation.

Aerospace DEI and ACE Building on Meaningful Progress

May 03, 2021

Aerospace is committed to building a culture of trust, inclusion and sense of belonging that empowers every employee to bring their whole self to work. This enables us to continue to deliver better and more innovative solutions in support of our customers.

As part of that commitment to our people, the company has focused considerable time and resources to augment and reinforce its diversity, equity and inclusion (DEI) efforts. Last year, under the leadership of the Executive Diversity Council (EDC) and the Aerospace Committee for Equality (ACE), Aerospace identified 34 specific DEI-related actions based on the foundation of six focus areas: Recruitment, Representation, Retention, Education and Training, K-12 STEM Outreach and Community Outreach.

“The ACE focus areas were established to identify and execute on critical actions where we can effect positive, long-lasting change as part of Aerospace’s DEI strategic framework,” said Ed Bolton, ACE Co-Chair. “Fostering a more inclusive and diverse workplace benefits all employees because it enhances Aerospace’s ability to innovate and collaborate through increasing the breadth and depth of our technical excellence. It also strengthens our objectivity by helping to remove biases while incorporating broader perspectives and thought.”

Accomplishing these initiatives involves persistent effort, dedication and active participation from all employees across the enterprise. With that being said, many of the early initiatives are beginning to bear fruit and meaningful progress continues to be made as Aerospace is able to build upon that momentum.

While the early emphasis of the committee’s DEI initiatives has been on the historically and disproportionately under-represented Black community and workforce at Aerospace, ACE’s efforts will benefit employees and communities of all backgrounds.

“The progress that Aerospace has made on our DEI initiatives has been encouraging,” said Via Van Liew,” Ace Co-Chair and Principal Director of Diversity, Equity and Inclusion. “Of course, there is more work to be

done, and we look forward to providing additional opportunities in the coming months for all employees to engage these efforts through the work they do at Aerospace and the in the communities where they live."

In the areas of **Recruitment**, **Representation** and **Retention**, ACE is focused on developing programs and pathways to attract, retain and develop our black and diversity employees in the technical staff.

The Diversity Referral Program, for example, successfully led to 12 technical hires and more than 215 quality referrals, which helps expand Aerospace's technical talent recruiting pool. ACE is also working toward strengthening Aerospace's relationships with Historically Black Colleges and Universities (HBCUs) to ensure a robust pipeline of diverse technical talent and intern conversions.

The committee has also advised on the formulation and incorporation of concrete DEI commitment goals for managers as part of their Performance Development Process for FY21. DEI goals are being incorporated across Aerospace teams to foster diverse representation at all levels of the enterprise.

In addition, ACE continues to work closely with People Operations to gather and review feedback as part of the effort to reduce attrition rates of black and diversity employees, and to better equip managers with toolkits, conversation guides and training that address root causes for high performers leaving.

Addressing systemic inequality and inherent biases requires more education and understanding of different perspectives. The focus area of **Education and Training** partnered with the NeuroLeadership Institute (NLI) to launch INCLUDE, a digital skill-building program for Aerospace managers that focuses on significantly improving inclusion across teams. The next steps of the program consist of reviewing the impact assessment statistics and developing a sustainment plan. The Education and Training focus area is also partnering with UC Hastings Work Life Law to conduct a Bias Interrupters workshop for managers and is in the process incorporating these tools into existing processes, such as performance evaluations and hiring processes.

ACE's efforts are also not limited to just within the places our people work, but in the communities where they live and care about.

ACE's **K-12 STEM Outreach** continues to work towards inspiring the next generation of engineers and scientists, focusing outreach to underrepresented communities. Aerospace partnered with the Smithsonian Science Education Center to provide educational materials to 10,000 diverse students and hundreds of teachers, as well as hosted a lesson plan on Tardigrades to provide teachers of Title I schools with student resources.

Since completing the company's first-ever Matching Donation campaign, in which employees exceeded the giving goal to support good causes, the **Community Outreach** focus area is expanding Aerospace's scholarship program to the communities of Huntsville, Ala.; Colorado Springs, Colo.; Albuquerque, NM; Chantilly, VA and Arlington/Alexandria, VA. Through the Future STEM Leaders Scholarship program, Aerospace is providing professional mentorship for high school students during their senior year, and

financial assistance to underrepresented and underprivileged students studying STEM disciplines at a four-year college or university.

As additional ACE initiatives get underway, Aerospace employees will have more opportunities to engage and participate.

May 2021 Obituaries

May 01, 2021

Sincere sympathy is extended to the families of:

- **Yaniv Dotan**, research engineer, hired Dec. 11, 1988, died May 2, 2021
- **John Brooks,** member of technical staff, hired Jan. 18, 1971, retired Oct. 1, 1993, died April 2, 2021
- **Roberta Brunelle,** office of technical support, hired Dec. 2, 1985, retired March 1, 2007, died April 3, 2021
- **Harry Campbell,** office of technical support, hired Oct. 29, 1970, retired Dec. 1, 1990, died Feb. 4, 2021
- **June Drake,** office of technical support, hired Dec. 23, 1970, retired April 1, 1996, died March 23, 2021
- **Karlene Duncan,** member of technical staff, hired Nov. 22, 1999, retired Feb. 28, 2019, died April 10, 2021
- **Robert Gaylord,** member of technical staff, hired Oct. 15, 1976, retired Sept. 1, 1995, died Sept. 7, 2020
- **Geraldine Guidry,** member of administrative staff, hired Aug. 4, 1980, retired Oct. 1, 2009, died April 21, 2021
- **Lawrence Martin,** member of technical staff, hired July 16, 1973, retired Feb. 1, 1999, died April 1, 2021
- **Dennis Meronek,** member of technical staff, hired April 30, 1962, retired June 1, 1993, died March 25, 2021
- **William Mullee,** member of technical staff, hired Dec. 13, 1960, retired July 1, 1994, died April 26, 2021
- **Ernest Penrose,** member of technical staff, hired Nov. 5, 1962, retired Feb. 1, 1990, died April 5, 2021
- **Joseph Pistolesi,** office of technical support, hired Nov. 3, 1979, retired Nov. 1, 1991, died April 25, 2021
- **George Valenzuela,** member of administrative staff, hired Dec. 12, 1994, March 4, 2016, died April 30, 2021
- **Pierre Valenzuela,** office of technical support, hired Feb. 16, 1971, retired June 1, 2012, died Feb. 10, 2021
- **Robert Winneberger,** member of technical staff, hired April 18, 1966, retired June 1, 1991, died Jan. 5, 2021

To notify Aerospace of a death and have it included in the Orbiter, please contact People Operations at (310) 336-5107.

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