



# ORBITER NEWS

News, announcements, and more.

## Peace, Love, and The Aerospace Summer Games

July 31, 2023



This year, Aerospace brought their A-game to the Aerospace Summer games, flexing their competitive spirit and showing off their skills at Dockweiler Beach in Playa del Rey, California. Thousands of employees from more than 50 companies across the aerospace industry gathered together for a day of fun, excitement and a healthy dose of competition.

More than 300 Aerospace employees and their guests represented the “A-Team” this year, including President and CEO Steve Isakowitz and other members of leadership.

“It’s exciting to see so many people from across the aerospace industry gathered together for some





competitive fun,” said Aerospace’s Nicole LaBier, who along with Madison Galvin and William Chavez, organized the company’s participation. “This event keeps getting bigger and I love the camaraderie among the companies. It’s amazing how well-connected people are across all the companies; it feels like a close-knit aerospace industry family gathering.”

Every year, Aerospace swag is sought-after by participants from other companies and this year was no different. By the end of the day, there were lines formed at the A-Team’s brightly decorated ‘70s themed canopy with people waiting to snag necklaces, candy, temporary tattoos, and their very own colorful “Peace, Love, Aerospace” shirt.

“My favorite part is that we always have the best shirts, swag and themed tent every year,” said LaBier. “Our internal Summer Games Committee takes enormous pride in coming up with the best swag on the beach year after year.”

Donning their bright orange shirts, the A-Team tossed, kicked, and served up fun in the sun as they competed in a variety of games. Employees showed off their athleticism, teamwork and coordination competing in volleyball, cornhole, dodgeball, tug-of-war, a relay race and more.

As the sun shined across the beach, teams toppled over each other as they competed to build a human pyramid. Disks were thrown through the air, zooming past competitors on their way to teammates as the A-Team played their hearts out in ultimate frisbee. During the soccer games, the A-Team was cheered on by supportive co-workers as they deftly passed the ball to one another to create opportune shots on goal, kicking up a cloud of sand in the process.



*Aerospace’s teamwork was on full display throughout the games.*



*Every year the planning team makes sure the Aerospace tent stands out in the crowd.*



*The tug-of-war team showed off their strength round after round through the finals.*

“The soccer game was one of the highlights of the day,” said Aerospace Media Intern Isabella He, who helped to capture the day’s excitement on the Space Workforce 2030’s Instagram account. “There was a huge group of employees and interns gathered cheering on our team. There was so much team spirit; we even started the wave. It was just really nice to see the team and the company shine.”

During the tug-of-war event, competition really heated up. With the A-Team's strength and determination on show, round after round they came out on top. Through sheer will and strategy, the A-Team managed to make it all the way to the finals where they came in second place for an overall finish of fifth out of 53 teams.

"It's great to bring people together for the Aerospace Summer Games and create lasting memories for the employees and interns who participate," said Galvin. "Year after year, the games are an excellent opportunity to grow our community and bond with our coworkers as the Aerospace team."

**More photos below:**



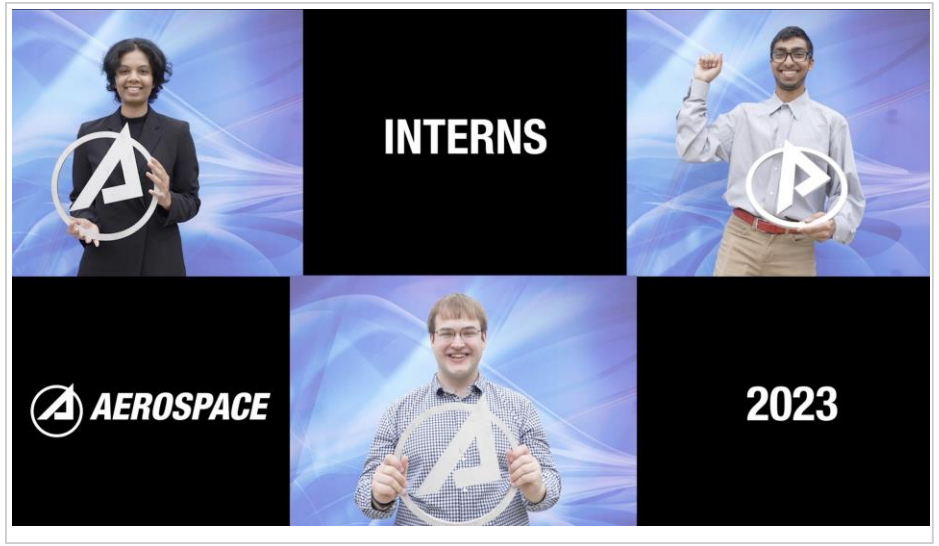


# Celebrate National Intern Day with Aerospace!

July 27, 2023

At Aerospace, interns play an integral part in strengthening the company's culture of innovation to create new possibilities for space. Each summer, interns from across the country join the Aerospace community, making key contributions through meaningful work while exploring exciting opportunities for their future professional career paths.

In recognition of [National Intern Day](#), Aerospace is celebrating our interns today with festivities taking place across our nationwide campuses.



Be sure to check out Aerospace's [intern blogs on Medium](#). Recent posts include:

- "Did I make the right decision?": My first month as an Aerospace intern
- I was an Aerospace intern. Two years later, I'm a full-time engineer.
- Interested in an Aerospace internship? Check out our recruiters' top tips.

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## Meet the 2023 Rising Stars

July 25, 2023

Inspiring the next generation of leaders in space is a key priority of Aerospace's STEM outreach. This year, Aerospace awarded scholarships to students across the country to support their academic goals in STEM and to help them take their place in space. Aerospace is proud to support these students, including 2023 Dr. Wanda M. Austin STEM Scholarship winner Evelyn Gamez, as they study to achieve their dreams.



The scholarship opportunities are part of the [Aerospace Rising Stars \(ARS\) program](#), which aims to increase the number of women and diverse students in STEM. The ARS program is a multifaceted initiative that

supports diverse students through their education and beyond, helping them to achieve their dreams.

“We are thrilled to recognize and support Evelyn and all of this year’s STEM scholarship recipients,” said Steve Isakowitz, President and CEO of Aerospace. “Evelyn’s leadership, academic excellence and passion for engineering make her an excellent addition to our growing ranks of Dr. Wanda M. Austin Scholars. These awards are an investment in strengthening our workforce and the communities where our employees work and live, while exemplifying our ongoing commitment to diversifying the space industry.”

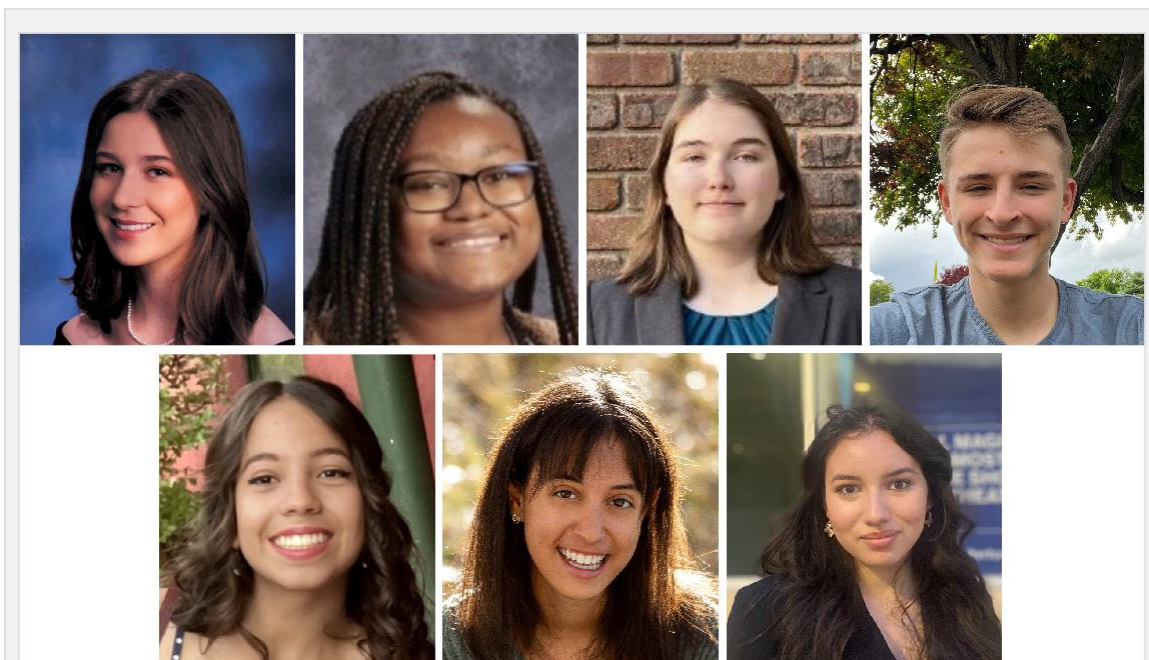
Evelyn stands out for a variety of reasons. In addition to recently graduating as the valedictorian the of Hawthorne High School class of 2023, she was the president of the school’s Mathematics, Engineering, Science and Achievement (MESA) Club, and was named MESA Student of the Year.

As the newest recipient of the scholarship – which is named in honor of former Aerospace CEO Dr. Wanda M. Austin – Evelyn received a paid summer internship, mentoring and a \$10,000-per-year scholarship (renewable for up to four years). This fall, she will be attending California State Polytechnic University, Pomona, where she will be majoring in manufacturing engineering.

Evelyn cites her mother as one of her greatest motivators and inspirations and said she developed her passion for manufacturing and engineering while participating in her high school’s FIRST Robotics team, Team 207. Evelyn recently served as co-captain of the team where they designed, built and operated the robot, taking it to competitions to compete against other schools.

“I’d like to thank The Aerospace Corporation for giving me a scholarship and an internship over the summer that will allow me to both gain experience in the engineering field while also allowing me to pursue my career for the next four years,” said Evelyn.

## Supporting Students Across the Country



*This year’s Future STEM Leaders Scholarship recipients receive a one-time \$5,000 scholarship toward their studies at a four-year college or university. They are also matched with Aerospace mentors. Top left to right: Ada Pratico, Armani Boucaud, Elliott Bossetti, and Jeremy Cupp. Bottom left to right: Lorena Madrid Larranaga, Sabrina Montoya, and Sofia Gonzalez.*

Aerospace supports students in a variety of ways including the Aerospace's Future STEM Leaders Scholarship which aims to broaden the impact at Aerospace locations across the country. The scholarship, which was launched in 2021, is awarded annually to high achieving students from underrepresented populations who are studying STEM disciplines. This year, a record number of seven students were selected for this one-time scholarship award that also pairs students with Aerospace employees for mentorship and academic and career guidance. The following students were selected:

- ♦ **Elliott Bossetti** from Colorado Springs, Colo.
- ♦ **Armani Boucaud** is a rising senior at Alexandria City High School in Alexandria, Va.
- ♦ **Jeremy Cupp** is a rising senior at Ogden High School in Ogden, Utah
- ♦ **Ada Pratico** is a graduating senior from Huntsville High School in Huntsville, Ala.
- ♦ **Sabrina Montoya** is a graduating senior from Rio Rancho High School in Albuquerque, NM.
- ♦ **Lorena Madrid Larranaga** is a rising senior at Albuquerque High School in Albuquerque, NM.
- ♦ **Sofia Gonzalez** is a rising senior at Explore Academy from Albuquerque, NM.

Congratulations to the 2023 Dr. Wanda M. Austin STEM Scholarship and Future STEM Leaders Scholarship winners! You can learn more about the scholarships and this year's winners [here](#).

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## It's International Moon Day! Let's Talk About Cislunar Space.

July 20, 2023

*In recognition of International Moon Day, [Aerospace's Medium blog](#) recently partnered with Dr. George E Pollock, Director of the Astrodynamics Department, to cislunar space – which includes the region between the Earth and Moon, and is the next frontier in space exploration.*

Cislunar space, the region within the combined gravitational influence of the Earth and Moon, offers numerous opportunities for scientific discovery, technological innovation, resource development, and economic growth. Its unique physics allows for new missions and efficient spacecraft operations. As a result, many countries and companies are actively pursuing lunar and cislunar missions to tap into the scientific and economic potential it offers. Many nations see these achievements as a method to enhance their geostrategic position, boost domestic space industries, and extend their presence beyond near- Earth space.



**But why is cislunar space so crucial for these goals?** This region, encompassing Earth, the Moon, and several nearby orbits, serves as a critical pathway for future interplanetary and deep-space exploration, acting as a testing ground for missions to Mars and beyond.

Technological breakthroughs are being developed to support a diverse cislunar economy and a permanent human presence. The Artemis program, for instance, focuses on advancing navigation, control systems, propulsion, and autonomous technologies. Future missions will feature astronauts returning to cislunar space and will demonstrate commercial capabilities for launches, human spaceflight, and lunar landings.

We're going back to the Moon, but unlike Apollo, we're going back to stay. This will present new challenges and need new solutions. We will also need a workforce trained to understand how to live and work in the lunar environment — possessing a mastery of cislunar orbital mechanics and the ability to thrive on the Moon for extended periods, navigate the Moon's terrain, and operate amid surface regolith and other features.

As explorers, we'll need to understand where we're going, whom we're sharing the space with, and have a plan for a shared, sustainable future. Some of the considerations for establishing a presence on the moon include managing the massive size of the region, modes of transport, orbital dynamics between the Earth and the Moon, and navigating to our destination, so let's get started.

## *Defining Cislunar Space*

The sheer volume of the region is massive — cislunar space is a 3-dimensional region, not just an A-to-B line from the Earth to the Moon. The Moon orbits at an altitude of roughly 380,000 km — just under 9.5 times the circumference of the Earth. To include most orbits of interest, for this discussion we'll use a definition of cislunar space that extends to an altitude of 550,000 km, or just under 14 times the circumference of the Earth.

## *Getting to the Moon*

Travel to cislunar space is not much more costly than reaching geosynchronous orbit (GEO), where we traditionally operate satellites for communications and weather missions. Currently, there are a half-dozen or so spacefaring stakeholders at the nation-state level that can launch to GEO, and they all have the capability to launch spacecraft to cislunar.

*To learn more about this increasingly critical section of space and how we will get there, please sure to **[read the full article here](#)**.*

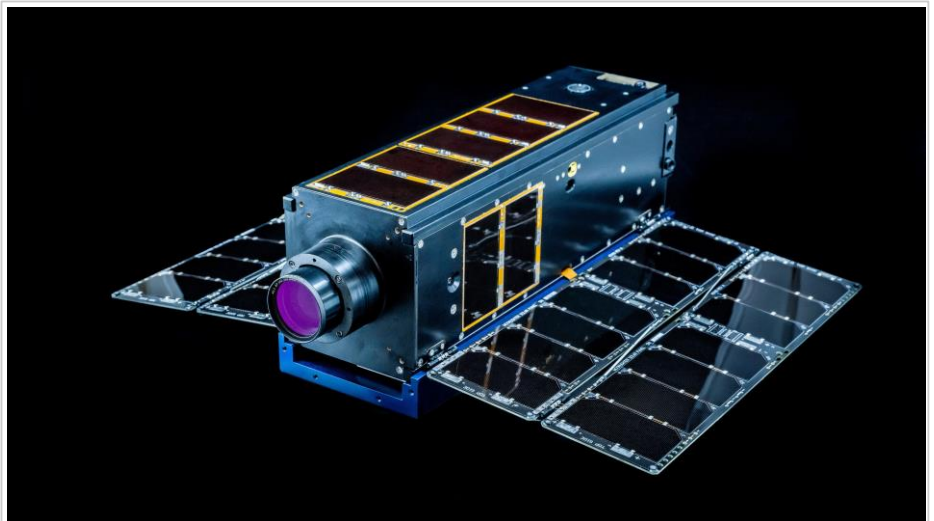
*International Moon Day celebrates the significance of the first Moon landing on July 20, 1969. Our return to the moon holds immense potential for scientific discoveries, technological advancements, resource utilization, and economic growth. Cislunar space offers the promise of unlocking new frontiers and opening doors to unexplored territories, making it indispensable for humanity's exploration and advancement. This orbital domain is complex, but there is sufficient volume for all to ensure a shared, sustainable future in space.*



# Aerospace's Moonlighter Illuminates a Path to Resiliency

July 18, 2023

The increasing reliance on space-based capabilities is driving the need to develop solutions that can address the rising likelihood of in-orbit challenges, including those stemming from competition and even potential conflict in the space environment. To maintain and strengthen the nation's domain supremacy, The Aerospace Corporation is actively supporting its government partners to identify collaborative strategies and tools to bolster resiliency faster than before.



*One major upcoming event that Moonlighter will be a part of is Hack-A-Sat 4, an annual space security challenge.*

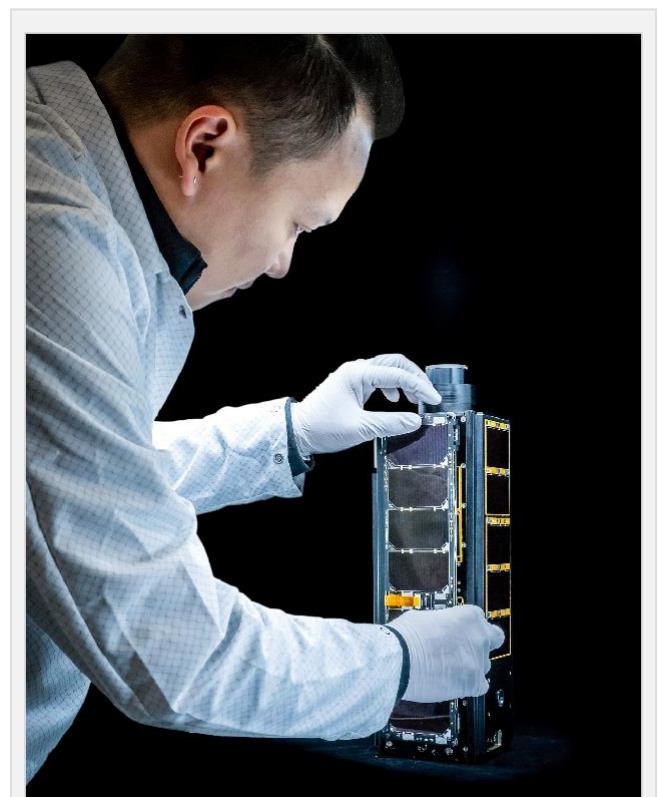
One example could be Moonlighter, a cyber test platform developed in partnership with Space Systems Command (SSC) and the Air Force Research Laboratory. Launched on June 5 from Cape Canaveral on SpX-28, this 3U CubeSat will provide the national security space community with the ability to test and learn where it really counts: real-time in-orbit.

"It is more critical than ever to channel efforts that help build resiliency among our current and future space systems," said Col. Kenneth Decker, director of Engineering, Space Domain Awareness and Combat Power (SDACP); and Battle Management Command, Control, and Communications (BMC3). "Moonlighter will help improve our understanding of what it takes for our spacecraft to successfully navigate the congested and contested space environment."

## From the Lab to LEO

Cybersecurity testing for space has usually occurred in the lab or in a simulation activity on the ground.

Applying cyber defense theories and approaches in the actual space domain has been restricted by the limited availability of suitable already-existing vehicles in that environment.



*Moonlighter is paving the way for spacecraft and their supporting architectures to display greater resiliency.*



Understanding the value that a real in-space system could provide in regard to this gap, teams from across Aerospace came together to design and develop Moonlighter.

Since the CubeSat was built from the ground up, engineers were able to intentionally design the satellite for cyber testing activities.

The testbed and its accompanying ground system are fully reprogrammable, presenting a canvas to experiment and conduct a wide span of exercises. On July 6, Moonlighter was deployed from the International Space Station, and will soon enable space operators to replicate different cyberattack scenarios, analyze how the system is affected, and recover the CubeSat—all without risking the health and functionality of the vehicle.

“The ultimate goal with Moonlighter is iterating on these things, not just do it once and be done,” said Aaron Myrick, a Project Leader in Aerospace’s Space Domain Superiority Department. “We want to try out tactics, techniques, and procedures to see what works and what doesn’t. And if it doesn’t work, we can make tweaks and adjust how we approach a problem to keep our space systems safe and resilient.”

*Read the full article on [aerospace.org](https://aerospace.org).*

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## Aerospace on the Big Screen: Inspiring the Next Generation of Planetary Defenders

July 12, 2023

In celebration of Asteroid Day, Aerospace recently hosted a private screening of the IMAX documentary “Asteroid Hunters”, which features several of Aerospace’s experts and the technologies they are developing to keep Earth safe from potential threats.

On June 30, nearly 100 summer interns, Matthew Isakowitz Fellows and other guests gathered at IMAX Headquarters in Playa Vista, California for the screening and to hear from Aerospace employees featured in the documentary.



*An audience of Aerospace leaders, summer interns and guests had the opportunity to watch Asteroid Hunters at IMAX Headquarters in Playa Vista.*



*The event also provided a great opportunity for summer interns and Matthew Isakowitz Fellows to connect with several Aerospace leaders and experts.*

Originally released in 2020, the film takes the audience on an awe-inspiring journey through space for a fascinating look at asteroids, their cosmic origins, and the potential threat they pose to Earth. The documentary introduces asteroid scientists, including some of Aerospace's own, explores the cutting-edge tools and techniques they use to detect and track asteroids, and the technology that may one day protect the Earth from the devastating results of an impact.

After the screening, Aerospace President and CEO Steve Isakowitz joined experts Dr. Nahum Melamed and Dr. Bill Ailor as well as the film's writer and producer, Phil

Groves, to discuss the film. During the panel, they discussed filming at Aerospace in El Segundo, the real-life events that inspired the film's creation, as well as the research and challenges that came with bringing it to life.

"Creating reliable and trusted information sources such as 'Asteroid Hunters' are some of the ways the public can engage and influence planetary defense," said Melamed. "The movie illustrates how Aerospace's cutting-edge expertise in space technology can be applied for the benefit of the greater public."

The panelists also explained the growing importance of continuing research and developing innovative techniques for planetary defense. Ensuring Earth's safety from a variety of threats remains key and several of the defensive techniques to protect the planet mentioned in the documentary are currently being developed by teams at Aerospace.

"Although far in between, being prepared is advisable considering the possible severe consequences of an asteroid impact," Melamed said. "The cost of defending the planet from asteroids is much less than the price of an impact. Spreading planetary defense development efforts over the next years would make the annual cost reasonable."

While the threat asteroids pose to Earth and the importance of planetary defense are made clear throughout the film, the panelists agreed that ultimately, they hoped the film would not only inform the audience, but also inspire the next generation of scientists to protect the planet.

"The movie is culmination of my desire to leave a safer world for my children and future generations," said Melamed. "It was an honor to showcase the work we do at Aerospace to the world."



*In addition to enjoying the Asteroid Hunters film, the audience got to hear from President and CEO Steve Isakowitz, experts Dr. Nahum Melamed and Dr. Bill Ailor, and writer/producer Phil Groves discuss the cutting-edge research and technologies featured in the movie.*



# July 2023 Obituaries

July 01, 2023

*Sincere sympathy is extended to the families of:*

- Arthur Brandt, member of technical staff, hired Nov. 26, 1984, retired Feb. 1, 1988, died May 3, 2023
- Calvin Smith, member of technical staff, hired July 31, 1984, retired Oct. 1, 1993, died May 1, 2023
- David Walkup, member of technical staff, hired July 2, 1979, retired Jan. 1, 2000, died April 18, 2023
- Manfred Peinemann, member of technical staff, hired May 22, 2000, retired June 1, 2012, died March 29, 2023
- Murray Friedman, member of technical staff, hired June 11, 1968, retired Oct. 1, 1993, died May 23, 2023
- Norman Au, member of technical staff, hired Jan. 16, 1961, retired Jan. 1, 1993, died May 24, 2023
- Ralph Bain, member of technical staff, hired June 10, 1976, retired Jan. 1, 1988 died May 16, 2023
- Ronald Johnson, member of technical staff, hired Aug. 8, 1967, retired Oct. 1, 1993, died May 8, 2023
- Terry Browne, member of technical staff, hired Nov. 30, 1987, retired Jan. 1, 1996, died Feb. 2, 2023
- Theodore Gold, member of technical staff, hired May 12, 1969, retired May 1, 2000, died May 13, 2023
- William Englehart, member of technical staff, hired Feb 2, 1965, retired July 1, 1994, died June 6, 2023
- William Morison, member of technical staff, hired May 28, 1962, retired June 1, 1985, died March 24, 2023

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