

ORBITER NEWS

News, announcements, and more.

Interview: Aerospace's Marilee Wheaton Inducted as President of INCOSE

February 23, 2022

As part of Aerospace's celebration of Engineers Week, the Orbiter spoke with Marilee Wheaton, who was recently inducted as president of the International Council on Systems Engineering (INCOSE), an organization which Aerospace has been a long-time Corporate Advisory Board (CAB) member. Established in 1990, INCOSE has over 65 chapters dedicated to addressing complex technical challenges through the application of systems engineering and systems approaches. Due to her



Marilee Wheaton, a Systems Engineering Fellow in Aerospace's Engineering and Technology Group and president of the International Council on Systems Engineering (INCOSE).

leadership and outstanding contributions to systems engineering, Wheaton will receive The Engineers' Council's Distinguished Engineering Achievement Award this weekend.

Wheaton currently is a Systems Engineering Fellow in the Engineering and Technology Group, working across the company to advance capabilities in digital engineering, system architecting, enterprise systems engineering, and model-based systems engineering. She previously was the executive director and general manager of The Aerospace Institute, overseeing employees' education, training and development activities. Wheaton's prior roles also include general manager of the Systems Engineering Division, and prior to joining Aerospace, was a director at TRW Systems.

This interview has been edited for length and clarity.



Now a Systems Engineering Fellow in the Engineering and Technology Group, Wheaton previously was the executive director and general manager of The Aerospace Institute, demonstrating a passion for mentoring others.

How did your Aerospace journey begin?

It was through networking and the Society of Women Engineers (SWE) that I got the opportunity to come to Aerospace. I was the president of the Cal State Northridge student section of SWE when I was working on my master's degree. The advisor for our SWE section was an Aerospace employee named Rhoda Novak, who is still a casual employee. I met Rhoda when an Aerospace business manager from one of the engineering groups came to speak at a SWE meeting. It was through SWE's mentoring connection that I learned that Rhoda was hiring. And what really made me interested was Aerospace's master's fellowship program. I joined the program and then came to work for Aerospace.

What was the moment you realized that Aerospace was the right fit for you and your career?

My dad was in the Air Force and retired as a colonel. And although he didn't work on the space side of things, I've always been interested in the things the Air Force has done because of my dad's connection. What appealed to me when I first heard about Aerospace was this dedication to the mission. When I joined Aerospace, I felt like I was joining a company that was contributing to the mission of our nation, including the Air Force. And that's what has kept me here. It's important in terms of feeling like we are adding to the nation's capability—protecting, supporting and contributing.

For quite some time now, you've been involved with INCOSE, which is a not-for-profit professional society in the field of Systems engineering with over 19,000 members. Can you talk about your experience with the organization?

Aerospace has been very involved with INCOSE since the organization's beginning, which was in 1990. We have a history of people being active in INCOSE, so I knew about INCOSE probably since its inception. However, it wasn't until I came back to Aerospace as a principal director in the Systems Engineering Division that I became a member. I then served as the CAB representative from 2006 to 2009 and from 2014 to 2019. I was elected as president-elect two years ago and inducted as president of INCOSE in January.

How does the focus and efforts of INCOSE align with Aerospace's strategic direction?

As a CAB member, Aerospace has complimentary membership for a number of employees. In addition, we have people that are individual members that are involved in INCOSE's working groups. There are multiple working groups—that's where the technical work supporting system engineering occurs. A couple of INCOSE's key areas are model-based systems engineering and a digital engineering information exchange group. These two working group areas are aligned with the work that Aerospace is currently focusing on. There's a very strong link with the actual work that this professional society is doing and things that really matter to us and our customers.

Why is digital engineering and systems engineering vital in keeping up with the pace of space, and how is Aerospace advancing these practices for the space enterprise?

It's not just the rapid development but also the increasing complexity of what we're seeing in space systems. Digital engineering helps you to connect the dots in an integrative way that then allows you to do things more at the speed of need and more effectively. Systems engineering continues to be important because our systems are now a system of systems, using data from different sources. We have noticed that our customers want to know the best strategy for their own digital transformations and how to be more digital in systems development. Aerospace has been helping its customers define what their strategy should be, the tools that should be utilized, and how to model these systems. Since Aerospace's ETG has been supporting all these customers, we've been able to be the backplane for digital engineering and share the lessons learned in this evolving area.

In addition to your work in the field of systems engineering, you've also dedicated a significant portion of your career to mentoring and educating others. What is something you're seeing from the next generation of engineers that really excites you for the future of space?

The thing I notice most about a lot of our early career folks is that they really want to make a difference and pay it forward. It's that sense of mission, helping others, giving back to the community, and being involved in things outside of your immediate work. Mentoring is a big part of that. The exciting thing about mentoring is how it's a two-way street. Some people think of mentoring as always from someone who's more experienced to someone who is less experienced. But in reality, we can learn a lot from the early career folks that are coming into the company. They are coming out with the most recent education, new tools and applications. I think that's really important when I think about early career folks and what the future holds.

What inspires you and why?

One of Aerospace's values that is most important to me is its Commitment to Our People. I always think of that one first and the reason why is because we truly do have world-class, best of the best people across the domains. Without a doubt, we have the brightest people and experts in so many areas—it's certainly true in my division and in systems engineering—but it's true across the company. What I'm very proud of and what impresses me is being able to work with that caliber talent. And it's not just folks that have been here and are Tech Fellows, it's the early career folks coming in as well. We continue to attract the best talent in the industry.

Aerospace Celebrates Engineers Week: Reimagining the Possible

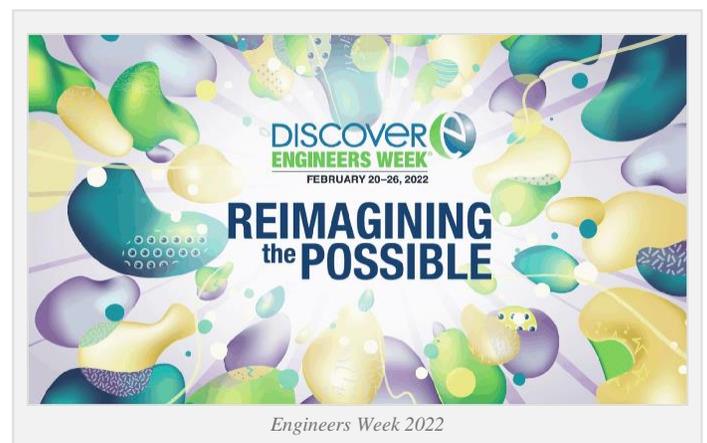
February 22, 2022

Innovative engineers around the world and at Aerospace are key to helping to define what is possible and paving the way for the next generation in space. Throughout Engineers Week, Aerospace will be showing its appreciation for their dedication and passion by featuring and highlighting engineers from across the company. Aerospace will also be participating in and hosting K-12 STEM events to help engage with and inspire the nation's future engineers.



Several of the engineers at Aerospace featured this EWeek.

In 1951, the National Society for Professional Engineers founded Engineers Week with the goal of "ensuring a diverse and well-educated future engineering workforce by increasing understanding and interest in engineering and technology careers." More than 70 years later, organizations like Aerospace are continuing our involvement and helping to make that mission a reality.



Inspiring the Next Generation

This year, Aerospace is partnering with LA Team Mentoring and kicking off E-Week with a special virtual visit. This is the second virtual visit with LATM this year and we will be bringing two employees to speak to students about their careers and about social media safety. The event will also feature a career panel of engineers sharing about their journey and what inspired them to pursue engineering. By sharing about their journey with the next generation, students can be inspired to reimagine what is possible.

Audience with Aerospace

Students also have the opportunity to learn about the life cycle of satellites and the Falling Stars Probes through a special Engineers Week [Audience with Aerospace](#) on Falling Stars. Elementary and middle school classes can discover how scientists and engineers work together using critical thinking, data, scientific modeling, and how asking questions helps engineers design and create satellites. The Audience with Aerospace program should be paired with the teacher lesson plan which can be found [here](#).

Our People Share “What Engineers Do”

Throughout the week, Aerospace’s social media and YouTube channels will also be featuring more than 25 engineers on discussing “what engineers do” and answering questions from students across the country. Be sure to follow along on our [YouTube](#), [Instagram](#) and [Twitter](#) to learn more about the incredible possibilities that can be achieved through engineering!



Aerospace Careers @AeroCorp... · 16h ...
Happy #EngineersWeek! Meet Niabelle, who does systems architecture design for our Communication Payload Command and Telemetry Department. “My advice for engineers joining Aerospace is to stay curious and don't be afraid to ask questions.”



Aerospace Careers @AeroCorp... · 16h ...
#EngineersWeek Meet Lii, who works on a variety of space technologies— from launch vehicles to GPS projects. “Aerospace gives a lot of opportunities to work on new and different technologies, which is challenging and interesting. It is like a candy store for engineers.”



Press Release: Forbes Names Aerospace an America's Best Midsize Employer for Second Year

February 17, 2022

EL SEGUNDO, Calif., Feb. 17, 2022 – The Aerospace Corporation (Aerospace) was named one of America's Best Midsize Employers 2022 by Forbes magazine, ranking in the top 500 midsize employers overall.

This is the second year in a row Aerospace has been recognized. Forbes also showcased Aerospace in 2019 as one of the Best Employers for Diversity.



"We are honored to receive this recognition, which speaks to the extraordinary workplace our employees have helped shape," said Heather Laychak, Aerospace vice president and chief people officer. "We're proud to be an organization that champions innovation and offers mission-driven career opportunities to make a difference for our nation during this exciting time in space."

The Forbes [America's Best Midsize Employers list](#) was compiled through an independent survey among 50,000 Americans who worked for businesses with at least 1,000 employees. Participants were asked to rate their willingness to recommend their own employers and to nominate other organizations. The rankings were based on the number of recommendations a company received.

ABOUT THE AEROSPACE CORPORATION

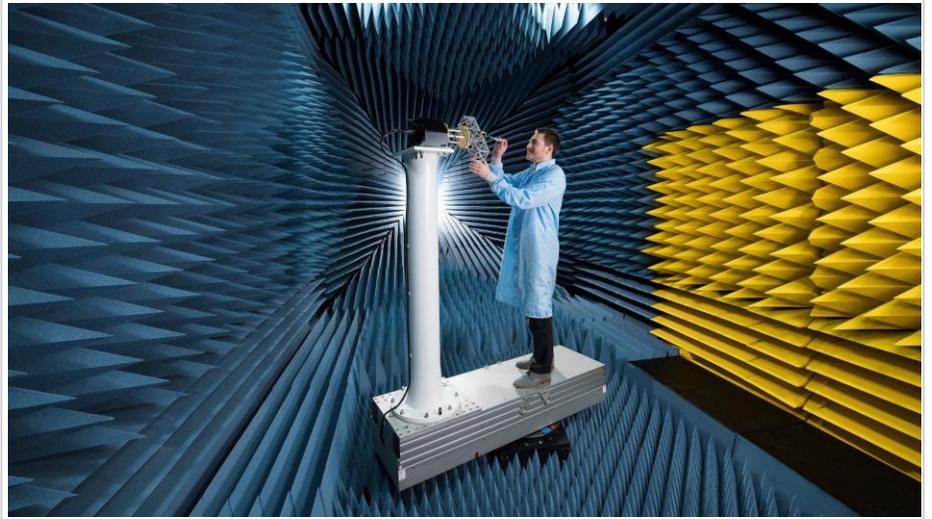
The Aerospace Corporation is a national nonprofit corporation that operates a federally funded research and development center and has more than 4,200 employees. With major locations in El Segundo, California; Albuquerque, New Mexico; Colorado Springs, Colorado; and the Washington, D.C. region, Aerospace addresses complex problems across the space enterprise and other areas of national and international significance through agility, innovation, and objective technical leadership. For more information, visit www.aerospace.org. Follow us on Twitter: [@AerospaceCorp](https://twitter.com/AerospaceCorp).

Take a Virtual Tour of Aerospace's Payload Characterization and Environments (PACE) Lab

February 15, 2022

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](#).

In our Payload Characterization and Environments (PACE) Lab, we perform environmental testing of smallsat payloads for our customers.



We test payloads to ensure they can operate once in orbit. Space is a harsh environment, and the ride to space is especially rough. Electronics we use in our everyday lives will not operate in space nor survive the trip there. Our testing equipment includes a radio frequency anechoic chamber, thermal cycle chamber, thermal vacuum chamber, and vibration table. Additionally, the facility is home to a mobile lab that enables radio frequency experimentation to be deployed off campus. Whether in support of CubeSat testing or other customer programs, we can go where the testing is needed.

PACE Lab is part of Aerospace's nationwide work in hardware prototyping, which includes testing facilities like these in Virginia as well as those in California. PACE Lab is a collaboration with experts from our Communications Technologies Division, Electronic Sensors Division, Vehicle Systems Division, and xLab. It takes teams of experts to build space systems.

Explore the **[Payload Characterization and Environments \(PACE\) Lab](#)** to learn more.

Four Aerospace Employees Honored for Carrying on Herndon's Legacy

February 10, 2022

Throughout his Aerospace career, Robert Herndon inspired others as a trailblazer, mentor and humanitarian.

As a black engineer at the top of his career during the civil rights movement, Herndon worked to provide better opportunities for others in the field.

This year, the Aerospace Black Caucus (ABC) recognized four employees who exemplify Herndon's professional and humanitarian character at the 2022 Robert H. Herndon Black Image Awards Ceremony, which is part of

ABC's month-long celebration of African American History Month (AAHM).



After joining Aerospace in 1961, Herndon rose to group director of the Advanced Mission Analysis Directorate, leading a team to perform system studies for NASA. Herndon's contributions were also integral in helping Aerospace develop early equal opportunity practices and policies, and as a result, he was recognized as a humanitarian as well as a champion for his colleagues.

"Few individuals have had a greater impact in fostering and strengthening the Black community at Aerospace than Robert Herndon, whose technical excellence was matched only by his humanitarian spirit," said Aerospace President and CEO Steve Isakowitz at the ceremony on Monday. "These annual awards are an important reminder of his legacy, and the role all of us can play in carrying forward his generosity and care for others. It was wonderful to hear more about that legacy today, through the experiences and memories shared by some of our current and former colleagues."

Congratulations to this year's Aerospace employees who were honored for their contributions to their communities and their impact to Aerospace:

- Leslie B. King, Systems Director, Launch Systems and Operations Development
- Lamont Cooper, Senior Project Leader, Communications Systems Implementation Subdivision
- Shawne' Raiford, Compensation Staff, People Operations
- Ginelle Charles, People Partner Staff, People Operations

More than 200 attended the virtual ceremony, which featured comments from William Albright, the first president of ABC, as well as from Herndon's granddaughter, Jessica Herndon Newton, and great granddaughter Emery.

"The Herndon Awards Ceremony is a prestigious event in our month-long celebration of African American history and culture here at The Aerospace Corporation. Annually, we look forward to celebrating Mr. Herndon's legacy," said Dr. Sherrica Hollman, President of ABC. "We are exceptionally excited about 2022's awards as it marks 40 years since its inception. To date, Aerospace has recognized more than 60 African American employees who have shown and demonstrated Mr. Herndon's exceptional work ethic, humanitarian spirit and dedication to the community."

More on This Year's Herndon Recipients:

Dr. Leslie B. King joined the Fluid Mechanics Department at Aerospace in 2001 where he supported the Atlas and Delta launch vehicle programs. According to colleagues, King's talents cover a broad range of technical disciplines and are critical to achieving mission success in space launches.

King worked in the Falcon Program Office as a project leader and recently he became the director leading the system's engineering team. After graduating from Georgia Tech, Dr. King received a M.S. in Mechanical Engineering from the University of Michigan and Ph.D. in Mechanical Engineering from USC as an Aerospace Ph.D. fellow.

He has been recognized by Aerospace with several awards, including the 2019 Aerospace Program Recognition Award, Black Engineers of the Year Award – Modern-Day Technology Leader and the Outstanding Program Support Customer Award. King gives back to the community as a Georgia Tech Alumni Mentor, USC AME part-time lecturer and a member of the USCAME DE&I Committee.

Lamont Cooper graduated from the DeVry Institute of Technology and was recognized by the National Society of Black Engineers as an Undergraduate Student Technical Research Project Award winner. He received his master's degree from the University of Massachusetts at Amherst.

Cooper joined Aerospace as an MTS where he provided communication hardware assessments and concept designs to GPS, NASA and Intelligence Community programs. In 2016, he became section manager in the Communication Payload, Command and Telemetry Department. In recognition of his leadership skills, Lamont was promoted to associate director of the Department in 2018.



Lamont also works in the Space Systems Architect Division as the Aerospace lead architect for Cross-Mission Data Transport. While at Aerospace, Cooper has been awarded numerous team and individual achievement awards and recently earned the Corporate Hero Pin for Shaping the Future.

Cooper is dedicated to giving back to his community and coaches youth soccer and basketball with his wife. He also is an active member of ABCwhere he served as the vice president from 2003-2005.



Shawne' Raiford has previously received numerous honors and awards while at Aerospace, including the Women of the Year Award and the Commitment to our People: Diversity and Inclusion Corporate Award. She has also been involved in several committees and clubs at Aerospace, such as ABC, the Office Professional Advisory Team, Aerospace Women's Committee (AWC) and the Aerospace Employees Association.

After spending four years as a college basketball player, Raiford graduated with a degree in Sociology from California Baptist University. Raiford joined Aerospace where she continued her education through various courses and training programs. After receiving the Aerospace Corporate Fellowship, she obtained her MBA from Cal Baptist in 2021. Raiford mentors two university students and serves as a mentor for Jefferson Elementary School in Compton and the Compton Early College High School Science Competition.

She also participates in community-based STEM events like Girls STEM Day and was appointed the chair of the K-12 Outreach for the Society of Women Engineers-Los Angeles in 2016.



Ginelle Charles received her Professional in Human Resources (PHR) certification after graduating from Cal State Northridge. In 2021, she was awarded an Aerospace Fellowship and is attending the University of Southern California studying for a master's degree in Human Resource Management.

After working at Capitol Records, Lionsgate Entertainment and NFL Media, Charles joined Aerospace as a people partner specialist in the Space Systems Group and currently supports Corporate Administration. She has been recognized often for her contributions and leadership in People Operations. Additionally, Charles mentors the DEI summer intern each year as well as new people partner specialists.

She also serves as the Aerospace Employees' Association director and has been a member of AWC and ABC since 2018. In addition to volunteering for many Aerospace outreach events, Charles volunteers for the Special Olympics, Heal the Bay and the L.A. Food Bank.

African American History Month Continues

In honor of African American History Month, ABC continues to host many events and opportunities for Aerospace employees to get involved. This year's theme, "Health and Wellness," represents the need of

individuals to focus on holistic well-being, especially in the face of the difficulties highlighted and presented by the pandemic. On February 3, ABC hosted a Professional Development Session, "Emotional Intelligence," facilitated by the People and Organizational Development team.

2022 Black Engineer of the Year Award Winners

Nine Aerospace employees will be honored with the Black Engineer of the Year Award (BEYA) on Feb. 17-19 at the BEYA STEM Conference. **Via Van Liew** is the recipient of the Dave Barclay Affirmative Action in Industry Award; **Dr. Hisham Ali, Karel Marshall** and **Kenny Harris II** are the recipients of the Modern-Day Technology Leaders Award; and **Sonia Henry, Terita Norton, Karolyn Young, Dr. Brianne Williams** and **Dr. David Mayo** are the recipients of the Science Spectrum Trailblazers Award. Congratulations to all awardees!

In addition, Aerospace employees will be leading discussions at the conference. The hybrid panels include:

- ◆ **The Path to Being the Best Leader: How to Lead with Charisma, Integrity, and Conviction** — Karolyn Young (Moderator)
- ◆ **With Great Power Comes Great Responsibility: Better Performance Skills for Non-Managers** — Dr. Brianne Williams (Panelist) and Kenneth Harris II (Moderator)
- ◆ **The Top Secret: Applying for and Leveraging a Security Clearance** — Journalia Clowers (Panelist)

AAHM Giving Campaign

Also, throughout the month, ABC has partnered with the Aerospace Committee for Equality (ACE) and Aerospace Cares for a giving campaign highlighting Black-founded nonprofit organizations including:

- ◆ **Outdoor Afro** — A national not-for-profit organization that builds a network celebrating and inspiring Black connections and leadership in nature.
- ◆ **National Center for Civil and Human Rights Foundation Inc.** — Provides an experience that connects the U.S. Civil Rights Movement to today's human rights challenges.
- ◆ **Black Mental Health Alliance** — Promotes a holistic, culturally relevant approach to the development and maintenance of optimal mental health programs and services for African Americans and other people of color.

In addition, ABC is collaborating with Aerospace's Corporate Social Responsibility team and Kaiser Educational Theatre to continue its Adopt-a-School Literacy Health and Wellness Book Drive for 96th Street STEAM Academy throughout February. For information on how to participate, visit the [campaign page on Aerospace Cares](#).

Later in the year, ABC will be celebrating their 50th anniversary as an organization; more information to follow!

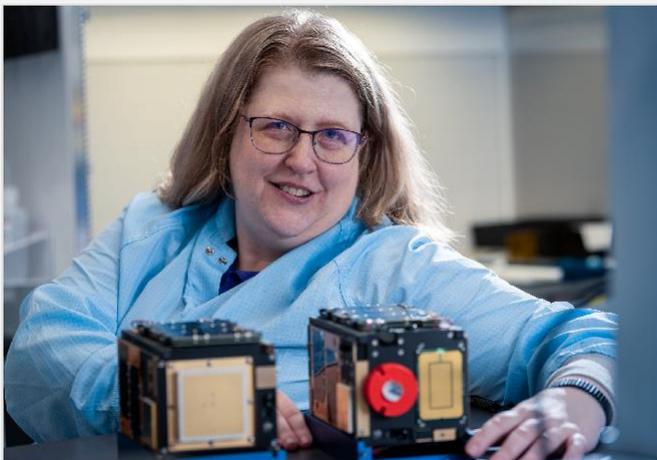
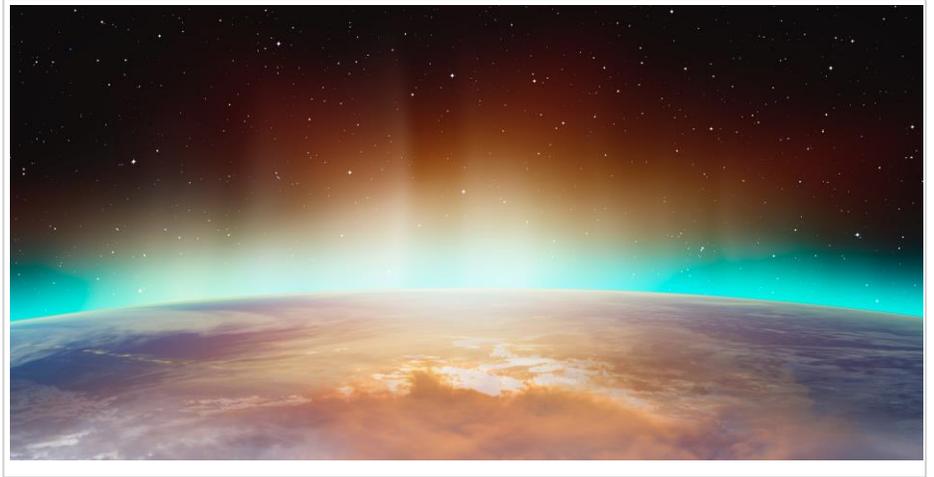
Aerospace Scientists Part of New Science Teams for NASA's Constellation to Study Earth's Upper Atmosphere

February 08, 2022

Ever-shifting conditions in Earth's ionosphere-thermosphere (I-T) system driven by energy from the sun and lower weather conditions can negatively affect numerous space and Earth-based technologies such as GPS navigation and radar tracking. To understand and forecast this region globally, scientists rely on computer models and other tools that require more and different types of data from the I-T system than is currently available.

A team of scientists at Aerospace has been selected as part of NASA's Geospace Dynamic Constellation (GDC) Interdisciplinary Scientist (IDS)

competition to support the GDC satellite's mission to study the Earth's I-T system and understand how it is affected by energy from the Sun and lower atmosphere. As an added benefit, the unique global dataset collected by the GDC mission will aid in model improvements of weather conditions from the Earth's surface to the boundary between the Earth and the Sun's magnetic fields.



Dr. Rebecca Bishop, Aerospace's principal investigator for the IDS ADAPTIVE project.

In addition to being a part of the core GDC science team assisting in a number of early mission related activities, the Aerospace team will be developing the Atmospheric Data and Mission Planning Tool in an Interactive Visualization Environment (ADAPTIVE). This tool will tackle some of the most difficult and under-prioritized aspects of a science constellation mission: the organization, utilization, and visualization of the science payloads' data.

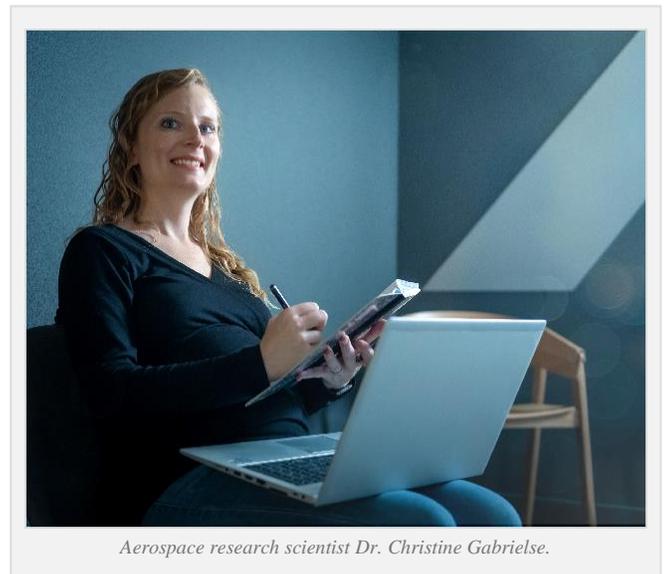
"Through the combination of our ADAPTIVE visualization tool and the GDC science observations, our goal is to enable the scientific and public communities to explore the GDC mission findings and

further our understanding of the ionosphere-thermosphere system," said Dr. Rebecca Bishop, Aerospace's principal investigator for the IDS ADAPTIVE project. "We are excited to be a part of the GDC team."

ADAPTIVE will be used to produce images and videos of various aspects of the GDC mission and science data sets. It will also provide a quick look at the data over the entire constellation at any given time or location and allow extraction of subsets of the mission observational data for further analysis and study.

In addition to ADAPTIVE, Aerospace is also supporting GDC as a co-investigator on a team led by Professor Yue Deng at the University of Texas in Arlington. The team will be using physical models and observations to assist with GDC planning, with an emphasis upon the ways space weather phenomena of different sizes impact the I-T system.

Dr. Christine Gabrielse, the Aerospace research scientist on the team, will use ground-based cameras that record the aurora to help with science planning, tools and technique development, and to verify GDC data after launch.



Aerospace research scientist Dr. Christine Gabrielse.

“It is extremely exciting to be involved with the GDC mission in this early phase,” Gabrielse said. “Our team is populated by both modelers and data analysts, covering a broad range of expertise in our existing assets that will help refine mission requirements, perform calibration, validation, and verification of GDC data, and assist with producing data products as well as analysis techniques. With recent advances in our models and GDC on the horizon, it’s a thrilling time to study Earth’s ionosphere and the ways it is impacted by Space Weather.”

*This article has been **published on Aerospace.org**.*

February 2022 Obituaries

February 01, 2022

Sincere sympathy is extended to the families of:

- ♦ **William Antonucci**, member of administrative staff, hired Oct. 29, 1962, retired Oct. 1, 2005, died Jan. 9, 2022
- ♦ **Winfred Battig**, member of technical staff, hired August 28, 2000, retired May 1, 2013, died Jan. 14, 2022
- ♦ **Ernest Frank, Jr.**, member of technical staff, hired Feb. 6, 1967, retired July 1, 2002, died Jan. 22, 2022
- ♦ **Yogi Krikorian**, member of technical staff, hired May 22, 1988, retired August 1, 2021, died Dec. 12, 2021
- ♦ **Leonard Malin**, member of technical staff, hired Oct. 18, 1961, retired Jan. 1, 1994, died Dec. 15, 2021
- ♦ **Nancy Oller**, office of technical support, hired March 1, 1982, retired Nov. 1, 2002, died Jan. 6, 2022
- ♦ **Orlando Ortiz**, member of administrative staff, hired July 11, 1972, retired August 1, 1996, died Dec. 20, 2021
- ♦ **Bruce Simpson**, member of technical staff, hired April 8, 1985, retired August 1, 2014, died Jan. 18, 2022

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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