BUILDING MOMENTUM

2024-25 ANNUAL REPORT

Georgia Tech College of Engineering

Daniel Guggenheim School of Aerospace Engineering

Georgia Tech College of Engineering
Daniel Guggenheim School of Aerospace Engineering

Dear Students, Faculty, and Staff,

It has been an exhilarating year of growth at the Daniel Guggenheim School of Aerospace Engineering, and I couldn't be more thrilled to be a part of it! With each step, we're **building momentum** and reimagining what's possible. This year's annual report highlights this effort and is just a glimpse of the bold new prospects on the horizon.

The School has experienced a steady increase in student enrollment, research funding, and corporate sponsorships - echoing our commitment to excellence and advancing our School to new heights. This success stems from our unified pursuit and drive to deliver the best academic and research experiences for our students, faculty, and researchers. I am deeply grateful for the outstanding team that supports me daily. Their dedication and dynamism not only inspire me but also propel our shared mission forward.

Professors **Glen Chou**, **Sarah Li, Keegan Moore**, **Yashwanth Nakka**, and **Beckett Zhou**, were added to our incredibly talented faculty, bringing world-class expertise in aerospace, multi-agent models, nonlinear dynamics, robotics, aerodynamics and aeroacoustics, machine learning, and computation. Their appointments, and the many to follow, reflect our strategic commitment to recruiting top-tier scholars whose research and teaching will directly contribute to the School's success.

The School recently completed the **Aircraft Prototyping Laboratory**, a two-story research facility in the heart of midtown-Atlanta. It will be a hub for advancement in aviation technologies, including electric and hybrid-electric aircraft and autonomous flight systems. The space is already buzzing with energy, and we're looking forward to the incredible endeavors that will take place within its walls – and skies - in the years to come.

Our students continue to earn national awards, prestigious scholarships, and internships with top aerospace companies, but what truly sets them apart is their passion for building community. This year, we proudly welcomed **Yellow Jacket Aviation**, a new student organization with an ambitious mission: to build the "Ramblin' Wreck of the Sky"—a full-scale RV-14 aircraft. Their energy and innovation are a perfect addition to our vibrant student community, and we can't wait to see the impact they'll make on the School.

Amid these exciting developments, we also pause to honor a remarkable milestone in our School's history. Professor **Sathyanaraya Hanagud** will retire after 55 years of service. He has set an extraordinary standard for excellence and mentorship. We thank him for his lasting impact and wish him the very best in this next chapter.

We're investing in the future through strategic initiatives that strengthen our academic pathways, student support, and research. From expanding mentorship programs to launching new research opportunities, we're on a promising trajectory that is progressing towards something great.

I'm grateful to contribute to this valuable work.

Mitchell L.R. Walker II
William R. T. Oakes Chair
Daniel Guggenheim School of Aerospace Engineering

AE Lab Slated to Usher in New Era of Aviation Research

Georgia now boasts a new aviation hub for collaboration among academia, government, and industry. All systems are go as the Aircraft Prototyping Laboratory (APL) opens for business, featuring specialized high-tech laboratories. A ribbon-cutting ceremony will be held to celebrate the opening.

The state-of-the-art facility adds a contemporary flair to the North Avenue Research Area (NARA) site with its sleek, white lines and ultra-modern façade, enclosed around cutting-edge equipment. The next generation of aerospace engineers will have access to an electric powertrain laboratory, a propulsion system test cell, an avionics lab, composite fabrication areas, and an area for integrating prototype aircraft with wing spans of up to 20 feet. Student groups, such as Yellow Jacket Aviation, and research engineers will be able to build their projects on campus. This work will support flight testing of electric vertical takeoff and landing (eVTOL) prototypes, solar-electric aircraft, and other sustainable aviation platforms.

APL, a symbol of collaboration and innovation, is also expected to further enhance Georgia's status as a leading aerospace exporter. The facility will foster research collaboration with local companies on design, testing, and evaluation. Its state-of-the-art resources have the potential to stimulate small business growth by providing Georgia-based aerospace and defense suppliers with access to Georgia Tech's testbeds, student talent, and collaborative research opportunities. APL's support for Georgia's dual-use industrial base, with facilities capable of advanced system integration and testing, will benefit both commercial and defense sectors, driving the industry forward.

The lab's groundbreaking was held late last summer under a bright August sun. **Brian German**, professor and co-director of Georgia Tech's Center for Urban and Regional Air Mobility (CURAM), shared his vision for the space with his Research Aircraft for eVTOL Enabling Technologies (RAVEN) project taking center stage. In collaboration with NASA and local businesses, they will design and build an 'open' eVTOL research aircraft in the half-ton weight class, to disseminate data about the aircraft to the broader aeronautics community. He will also lead a solar electric airplane project, using the new lab.

In addition to German's undertakings, Senior Research Engineer **Lee Whitcher** will use the hangar for advanced air mobility research through his Subscale EVTOL Testbed for safety critical software development and scalability Research (SETTER) project.

Learn more about how you can support the AE School and explore naming opportunities available for the new facility by contacting **Farah Kashlan** at farah.kashlan@ae.gatech.edu.

Wings of Hope

In the days following Hurricane Helene's devastation of North Carolina, alumnus **Gary Weissel** (BSAE 1993) watched as communities were cut off and supplies were running dangerously low. People were missing, and he wanted to help.

That's when he logged into the AEROBridge mission portal and saw a call for pilots to run disaster relief missions into North Carolina. AEROBridge's mission is to assist in times of catastrophic emergency by coordinating general and business aviation pilots and aircraft to provide immediate response to disasters.

Weissel signed up the Sunday after the storm and was in his Cessna eight hours later, flying from Ball Ground, Georgia, to Statesville, North Carolina, to pick up supplies.

"It was an amazing opportunity to mesh something I'm absolutely passionate about – flying and helping people in need," Weissel said.

Once airborne out of Ball Ground, he climbed 9,000 feet to rise above heavy cloud coverage. The skies eventually cleared and Weissel began to see Helene's impact. Lakes were extremely brown. Rivers were very wide. Interstates running south out of Asheville were packed with people trying to flee and trucks trying to make it into the disaster area.

Airways and control towers in the disaster area were so busy that pilots and air traffic controllers were using a special frequency to communicate. Weissel gave several pilot reports during his flight over the disaster area reporting cloud cover and visibility to assist other pilots and air traffic control in directing helicopter rescues in the mountainous terrain.

Volunteers loaded his plane with 360 pounds of water, food, diapers, wipes, toilet paper, and more. After fueling up, he waited in the packed tarmac for his turn to take off for Rutherford County Airport, 53 miles east of Asheville. They had to meticulously load the plane so that they were within the weight requirements and the center of gravity was correct - all important factors when flying, especially smaller aircraft. Once he landed at the powerless Rutherford County Airport, adult and youth volunteers immediately started unloading the supplies into the hangar.

"The volunteers thanked me several times for bringing in the supplies. They looked tired but were definitely energetic," Weissel shared. "I imagine they'd been through the ringer the past couple of days surviving without power and water. Some may have lost their homes and loved ones."

He was back in the air headed home 15 minutes later, experiencing heavy rain on the way. Air Traffic Control assistance helped him navigate and return safely to Ball Ground. The mission served as a friendly reminder of the importance of engineering skills in real-life applications and how to use your talents to help others.

Algorithms Developed at Georgia Tech Traveled to the Moon

In the past five years, five lunar landers have launched into space, marking a series of first successful landings in decades. The future will see more of these type of missions, including NASA's Artemis program and various private ventures. These missions need reliable and quick navigation abilities to successfully complete missions, especially if ground stations on Earth are overburdened or disconnected.

Georgia Tech's Space Exploration and Analysis Laboratory (SEAL) developed new algorithms that went to the moon, as part of the Intuitive Machines' IM-2 mission. The mission sent a Nova-C class lunar lander named Athena to the moon's south pole region to test technologies and collect data to enable future exploration. The mission was a part of NASA's Commercial Lunar Payload Services (CLPS) initiative.

SEAL, led by AE Associate Chair for Graduate Programs, **John Christian,** collaborated with Intuitive Machines to develop algorithms to guide Athena to the Shackleton crater, a region known for its limited sunlight and cold temperatures. In coordination with SpaceX, the IM-2 mission launched on February 26 from Launch Complex 39A at NASA's Kennedy Space Center in Florida.

Athena transported NASA's PRIME-1 (Polar Resources Ice Mining Experiment-1) which included two instruments: a drill and spectrometer. The Regolith and Ice Drill for Exploring New Terrain (TRIDENT) was designed to drill up to three feet of lunar surface to extract soil, while the mass spectrometer (MSOLO) measured the amount of ice in the soil samples.

After the launch, Athena separated from the rocket and cruised to the moon's orbit. The lander orbited the moon for three days before its descent to the south pole.

In Fall 2022, Research Engineer **Ava Thrasher** (AE 2022, M.S. AE 2024) began working on IM-2, developing new algorithms to guide Athena to the Shackleton crater using optical terrain relative navigation (TRN). Her approach looked at developing a crater detection algorithm (CDA) using image processing techniques that capture crater center locations on the moon which are then used to determine Athena's position estimations.

Then, she developed a crater identification algorithm (CIA) to match craters found in the image to a catalog of known lunar craters. By using CDA and CIA in tandem, Athena is able to estimate its location and orientation with a single photo, autonomously, and in real-time.

"We wanted to strike a balance between creating something that would be done quickly on board, but also something that was reliable," she explained. "We ended up using simple crater geometry and knowledge of the sun angle to render what we expect a crater to look like in the image."

Prof. John Christian

The CDA finds craters by calculating a similarity score between the image and the rendered crater at each image pixel point. This process, also known as template matching, marks crater centers at points of very high similarity. CIA then uses these crater center locations to match them with known craters in a catalog. By matching pixel locations in an image to known three-dimensional positions on the moon, the spacecraft is able to produce an estimation of its position.

After two years of research and testing, Thrasher, Christian, and the Intuitive Machines team successfully demonstrated the CDA and CIA on synthetic imagery and Thrasher handed off the algorithms to Intuitive Machines to convert them into flight software for Athena.

As part of a multi-year collaboration, Christian also helped develop a key navigation algorithm for Intuitive Machines' first space mission (IM-1) which launched a Nova-C lunar lander named Odysseus to the Malapert A crater on the Moon's south pole region; about 11 miles away from IM-2's targeted Shackleton crater.

The IM-1 mission launched from Kennedy Space Center on February 15, 2024 and soft-landed on the moon on February 22, 2024---making Odysseus the first U.S. lunar landing since the Apollo program and the first-ever successful commercial lunar landing. Odysseus had a rougher-than-expected soft landing due to an anomaly with the altimeter that was supposed to provide insight into the lander's height above the lunar surface. In the absence of these altimeter measurements, Odysseus relied critically on the visual odometry technique that was jointly developed by Christian and Intuitive Machines.

Despite these challenges, Odysseus captured images of the moon during landing and operated on the lunar surface for 144 hours before entering standby mode. Christian and SEAL have more projects on the horizon to develop new technologies for exploring our solar system.

Building the Future Together

Find out how you can support the AE School and the new building:
ae.gatech.edu/give

At the Daniel Guggenheim School of Aerospace Engineering, we have always looked upward — toward the stars, innovation, and leadership. The time has come to build the future. To sustain and elevate our position as a global leader in aerospace education and research, Georgia Tech must invest in a new, state-of-the-art facility that matches the ambition and talent of our students and faculty.

The new facility will:

- Expand our cutting-edge research capabilities in areas such as space exploration, autonomous systems, sustainable aviation, and hypersonics.
- Provide modern, flexible spaces that foster collaboration, creativity, and innovation.
- Attract and retain the best students, faculty, staff and researchers in the world.

We are currently experiencing an exhilarating period in our fundraising efforts for a new building dedicated to aerospace engineering. With the support of stakeholders and our generous donors, we are poised to create an environment that not only advances aerospace engineering but also inspires the next generation of pioneers.

Georgia Tech CubeSat Propellant Innovation Set to Transform Space Missions


Prof. Álvaro Romero- Calvo

Professor **Álvaro Romero-Calvo** and a team of Georgia Tech engineers were selected by NASA for a TechFlights award — an effort managed by NASA's Flight Opportunities program, which demonstrates technologies through suborbital and hosted orbital testing with industry flight providers.

In the Low-Gravity Science and Technology (LGST) Laboratory, led by Romero-Calvo, Georgia Tech engineers develop novel multiphase fluid management technologies for spacecraft by using electromagnetic and acoustic actuation mechanisms; and in this case, heat.

Boosting CubeSat Performance

"Many of the current generations of CubeSats are propelled by saturated cold-gas propellants (propellants that can be stored as a liquid-gas mixture, like butane in a lighter) and feature some of the simplest architectures you can have in a propulsion system," explained Romero-Calvo. "We use propellant management devices (PMDs) to help position the liquid and maintain steady flow between the fuel tanks and the nozzles, but fitting everything in the limited volume in a CubeSat is challenging. Our approach helps alleviate that in a very simple way."

When a CubeSat is in space the liquid propellant behaves very differently than while on Earth. This is also true for the gases on board. The propellant can slosh around the fuel tank creating an unstable environment and impacting the vehicle's control system if not managed properly. Once the pressure in the tank drops and bubbles form, they can cause fluid dynamics disruptions like unsteady propellant flow and unpredictable thrust due to the lack of buoyancy.

Applying heat to the tank vaporizes the propellant, allowing engineers to move and position the liquid propellant to desired locations in the CubeSat propellant tank. The PMDs also allow steady flow to the thrusters which keep the CubeSat in desired alignments and orientations while navigating in swarm configurations.

Romero-Calvo, **Hugh Chen, Samuel Hart**, and **Shay Vitale** traveled to Jacksonville, Florida to work with Zero Gravity Corporation (Zero-G), a parabolic flight provider where researchers test their payloads in reduced gravity conditions.

They showed up to the tarmac and boarded a modified B-727 aircraft. This flight created a zero-gravity environment by following a specific flight path, known as a parabolic trajectory, or parabolas. The process starts with the aircraft flying level with the horizon at an altitude of 24,000 feet. Then the pilot gradually increases the angle to about 45 degrees relative to the horizon until reaching an altitude of 32,000 feet. During this phase, all on board feel the pull of 1.8 times the force of Earth's gravity.

Next, the plane initiates the parabolic arc and the reduced gravity phase begins. For the next 20-25 seconds, everyone on board the plane experiences reduced gravity.

Finally, the plane pulls out of the maneuver, allowing all on board to gradually return to the padded floor of the aircraft. Throughout the process, Zero-G had individual flight coaches aboard calling out signals and ensuring overall safety.

During the Georgia Tech team's flight test, this maneuver was flown 40 times, with 12 replicating the Moon's gravity and 28 providing zero gravity. In total, the flight testing provided about 13 minutes of invaluable data.

For this first trial, the research group's goal was to show that cold-gas propellants can be repositioned in microgravity conditions by means of heat sources.

Three of the five fully monitored tanks were used as the control group. The tanks included different types of thermal PMDs. At the beginning of each parabola, the PMDs were activated, and the liquid propellant began to vaporize near the tank outlet, generating a gas bubble.

After a safe landing, they reviewed their data and saw that their technology worked as expected, but there were some hardware modifications they needed to address before their second flight test. The team will continue testing this new propellant management approach in 2025, increasing the complexity of their experiments to reproduce more challenging operational conditions.

Georgia Tech Researchers Pioneer Eco-Friendly Building Materials for Earth and Mars

For centuries, innovations in structural materials have prioritized strength and durability — often at a steep environmental price. Today, the construction industry accounts for approximately 10% of global greenhouse gas emissions, with cement, steel, and concrete responsible for more than two-thirds of that total. As the world presses for a sustainable future, scientists are racing to reinvent the very foundations of our built environment.

Paradigm Shift in Construction

Now, researchers at Georgia Tech have developed a novel class of modular, reconfigurable, and sustainable building blocks — a new construction paradigm as well-suited for terrestrial homes as it is for extraterrestrial habitats. Their study, published in *Matter,* demonstrates that these innovative units, dubbed eco-voxels, can reduce carbon footprints by up to 40% compared to traditional construction materials. These units also maintain the structural performance needed for applications ranging from load-bearing walls to aircraft wings.

"We created sustainable structures using these eco-friendly building blocks, combining our knowledge of structural mechanics and mechanical design with industry-relevant manufacturing practices and environmental assessments," said Professor **Christos Athanasiou**.

Their work offers a potential solution to the growing housing affordability crisis. As climate-driven disasters such as hurricanes, wildfires, and floods increase, homes are damaged at higher rates, and insurance costs are skyrocketing. This crisis is fueled by rising land prices and restrictive development regulations. Meanwhile, the growing demand for housing places an increasing strain on global resources and the environment. The modularity and circularity of the developed approach can effectively address these issues.

The New Building Blocks

Eco-voxels — short for eco-friendly voxels, the 3D equivalent of pixels — are made from polytrimethylene terephthalate (PTT). PTT is a partially bio-based polymer derived from corn sugar and reinforced with recycled carbon fibers from aerospace waste (scrap material lost during the manufacturing of aerospace components). Eco-voxels can be easily assembled into large, load-bearing structures and then disassembled and reconfigured, all without generating waste. Consequently, they offer a highly adaptable, sustainable approach to construction.


Prof. Christos Athanasiou

The researchers compared the eco-voxel approach to other emerging construction methods like 3D-printed concrete and cross-laminated timber (CLT), finding that eco-voxels offer significant environmental advantages. While traditional and alternative materials are often heavy and carbon-intensive, the eco-voxel wall had the lowest carbon footprint: 30% lower than concrete and 20% lower than CLT.

Beyond their terrestrial potential, eco-voxels can also offer a promising solution for off-world construction where traditional building methods are unfeasible. Their lightweight, rapid assembly — structures can be erected in less than an hour — and reliance on sustainable or locally sourced materials make them ideal candidates for future Martian or lunar shelters.

"The ability to build these structures quickly is a significant advantage for space construction," said Athanasiou. "In space, we need lightweight units made from locally sourced materials."

Perhaps most importantly, the researchers envision a future where the built environment not only minimizes harm but actively contributes to the preservation of planetary health.

This research was led by Georgia Tech, in collaboration with teams from the Massachusetts Institute of Technology, the University of Guelph in Ontario, Canada, and the National University of Singapore.

Read more: ae.gatech.edu/news

FACULTY HIGHLIGHTS

• Following a nationwide search, Professor **Tim Lieuwen** was named Georgia Tech's Executive Vice President for Research. He also received the American Society of Mechanical Engineers (ASME) Medal, and was elected as an International Fellow by the UK's Royal Academy of Engineering. Additionally, he delivered the American Institute of Aeronautics and Astronautics (AIAA) Dryden Lectureship at the SciTech Forum. • Professor **Adam Steinberg** was appointed as the New Secretary of the Faculty where he will serve across the Institute. • Professor **John Christian** was selected as the AE School's new associate chair for graduate programs. He manages the graduate program, reviews the curriculum, and recruits top talent. • The Space Exploration and Analysis Laboratory (SEAL), led by Christian, developed a new algorithm that went to the Moon as part of the Intuitive Machines' IM-2 mission. • Professor **Kyriakos Vamvoudakis** is collaborating on a NASA University Leadership Initiative (ULI) grant to create intelligent systems for Advanced Air Mobility (AAM) that can independently learn and make safe decisions. He also received $400,000 from the National Science Foundation (NSF) for his proposal on improving safety for learning-enabled systems and was also named Editor-in-Chief of the *Aerospace Science and Technology Journal*. • Regents Professor **Vigor Yang** received the 2025 Reed Aeronautics Award for his contributions to combustion research and education. It is AIAA's highest honor for achievements in aeronautics. • Professor **Álvaro Romero-Calvo** and a team of Georgia Tech engineers were selected by NASA for a TechFlights award. • Professor **Kai James** released a study in the *Royal Society Open Science Journal* that analyzed the wheel's invention and evolution. He was also named an AIAA Associate Fellow along with Professor **Koki Ho**. • Professor **Marilyn Smith** was appointed David S. Lewis professor for her exceptional achievements in aerospace engineering.• Professor **Masatoshi Hirabayashi** pub- lished research on asteroid deflection in *Nature Communications* for his work on NASA's Double Asteroid Redirection Test (DART). • Professor **Cristina Riso** delivered the keynote at the International Forum on Aeroelasticity and Structural Dynamics Conference, speaking on the advances in aeroelastic prediction and design optimization. • Professor **P.K. Yeung** accessed Frontier, the world's first and still fastest -Exascale computer, capable of a quintillion operations per second to better understand turbulence and published an article regarding his research in *Computer Physics Communications*. • The Aerospace Systems Design Laboratory (ASDL), led by Regents Professor **Dimitri Mavris**, received an award under the NASA Advanced Aircraft Concepts for Environmental Sustainability (AACES) 2050 contract to study and design future sustainable aircraft.• Professor **Christos Athanasiou** received the NSF CAREER award from the Mechanics and Materials and Structures program, and an Orr Early Career Award from ASME. • Professor **Elizabeth Qian** received the prestigious Faculty Early Career Development Program award from the NSF. • AE Lecturer **Kelly Griendling** received the C. Virgil Smith Faculty Teaching Award, the Junior Faculty Teaching Excellence Award, and the Course Instructor Opinion Surveys (CIOS) Award for Large Classes for her extraordinary support to her students. • Professor **Yashwanth Nakka** won the best paper award at the Robotics Science and Systems 2025 Space Robotics Workshop. • Professors **Jerry Seitzman**, and **Mayuresh Patil** along with Lecturers **Kelly Griendling, Turab Zaidi,** and **Sriram Parthasarathy Kalathoor** made the Spring 2025 CIOS Honor Roll.

Prof. Tim Lieuwen

Prof. Adam Steinberg

Prof. Kyriakos Vamvoudakis

Prof. Vigor Yang

Prof. Masatoshi Hirabayashi

Prof. Cristina Riso

Prof. Kai James

Prof. Kelly Griendling

NEW FACULTY

• **Glen Chou** joined the AE School as an assistant professor in November 2024. He leads the Trustworthy Robotics Lab and it focuses on algorithm design that enables general purpose robots and autonomous systems to operate safely and securely, while remaining resilient to real-world failures and uncertainty.

• **Sarah Li** joined the AE School as an assistant professor in January 2025. Her research advances multi-agent models and algorithms to overcome challenges facing future air and space mobility systems. Li's technical work lies at the intersection of game theory, stochastic control, and optimization to enable optimal and safe decision-making of autonomous systems in interactive settings. Her research combines techniques from optimization, control theory, and game theory to develop models and algorithms for applications including urban transportation, advanced air mobility, and space collision avoidance.

• **Keegan J. Moore** joined the AE School in August 2024 as an associate professor. He leads the Moore Dynamics and Analytics Laboratory (MoDAL). His work centers on nonlinear dynamics and vibrations, and his research lies at the intersection of theory, simulation, and measurements. His recent endeavor focuses on novel system identification methods, non-reciprocity, and energy guiding in nonlinear structures, the mechanics of loosening of bolts, autonomous vibration testing, and autonomous model updating.

• **Yashwanth Nakka** joined the AE School in August 2024 as an assistant professor. He directs the Aerospace Robotics Laboratory (ARL), where his group focuses on autonomous aerospace robotic systems for both orbital and planetary environments. Applications include lunar exploration using planetary rovers, orbital inspection and servicing platforms, and multi-spacecraft systems for in-space assembly and exploration. He is particularly interested in the theoretical foundations of autonomous decision-making, including stochastic optimal control, guidance and control under uncertainty, and distributed planning and control for multi-agent robotic systems.

• **Beckett Y. Zhou** joined the AE School in November 2024. He leads the Computational Laboratory for Aerodynamics and Aeroacoustics Research (CLAAR). CLAAR's work centers on the development of efficient numerical methods, supported by adjoint and advanced data-driven methods, to help elucidate complex flow physics and noise generation mechanisms of both fixed-wing and rotary-wing configurations and optimize their aerodynamic and acoustic performance.

Prof. Glen Chou

Prof. Sarah Li

Prof. Keegan Moore

Prof. Yashwanth Nakka

Prof. Beckett Y. Zhou

STUDENT HIGHLIGHTS

• The Ramblin' Rocket Club traveled to the Friends of Amateur Rocketry launch location in Mojave, California, to launch their two-stage rocket, Fire on High. There were 62 Georgia Tech students who took the three-day journey. • Team All Hands on Dec took the top prize for the Best Aerospace Project at the Fall 2024 Capstone Design Expo with their project Lunar Exploration and Terrain Observation Rover (LETO) that investigated the moon's south pole to find water ice. Team members included: **Lauren Forcey, Frank Frazier, Daniel Gillilland, Bryce Laderoute, Schuyler McCaa,** and **Sayed Tabatabaei.** • **Khalil Harruna, Lauren Leitch, Marquel Ollivierre,** and **Mersimoy Regassa** earned Patti Grace Smith Fellowships that included a challenging summer aerospace internship and executive mentorship. • Post Doc **Ziqin (Grace) Ni** received the 2025 Research Administration & Support (RA&S) Spotlight Award for demonstrating exceptional performance and partnership across departments. She received a $500 award and was recognized during the April Research Administration Buzz (RAB) meeting. • **Catherine Fang** and **Andra Oltean** were named to the 2025 class of Brooke Owens Fellows, a nationally competitive program that supports exceptional undergraduate students in aerospace with paid internships and executive mentors.• Two AE Teams won at the Vertical Flight Society's (VFS) 41st Annual Student Design Competition. Team AeroLay secured first place in the undergraduate category. The mission was to design a modular multi-mission vertical takeoff and landing (VTOL) that could take off and land vertically from the deck of a ship in high winds and gusty conditions, cruise to and from the site of a disaster, serve as a long-endurance communications relay, and land vertically to deliver relief supplies. Team members included **Tanner Zagrodnik, Aleksandr Lutsenko, Cory Chianello, Mervyn Praveen, Kaitlyn Kosten, Irelyn Meckley, Aidan Peairs,** and **Shalva Begiashvili**. Team Horus won second place in the graduate category with a mission to design an aircraft to maximize the mass of the carried payload and maximize the loiter time so that it could spend more time in the communications relay state. Team members included: **Saisruthi Bandla, Heather Beers, Dante' Evangelista, Sai Vishal Gali, Zahra Mehtar, Ifeoluwa Oloworaran, Bryan Regan, Carla Sheridan, Gray Simmons,** and **Savanna Scott.** • **Duncan Waanders** was named the VFS Lichten Competition runner-up. This prestigious international award is for engineers who have never presented at a national conference. Waanders competed against contestants from across the globe in industry, government, and academia. • AE Ph.D. student **Marc Koerschner** won the coveted People's Choice award, which was rewarded with a $500 research travel grant. • **Travis Driver**, Ph.D. student, was chosen for the Guidance, Navigation and Control Technical (GNC) Technical Committee Best Paper for the American Institute of Aeronautics and Astronautics (AIAA) SciTech 2024 Forum. • **Zachary Steven Grieser,** a Ph.D. student, received the National Science Foundation's Graduate Research Fellowship Program (NSF GRFP), as did graduate student, Stephanie Gonzalez. The fellowship will cover three years of graduate study and tuition. • **Adhiraj Bhagat** received a $40,000 Institute of International Education Quad Fellowship to further his supersonic carbon-free fuels research. • **Alfonso Lagares De Toledo** was awarded the $10,000 Daedalus 88 Scholarship. • Graduate students **Lin Al Atik** and **Abraham Atte**, were selected to Aviation Week Network's 20 Twenties. The program highlights rising industry stars for their many achievements in aviation. • **Leslie Nava** received the AIAA Lockheed Martin Marillyn Hewson Scholarship for $10,000. The scholarship is given to one high school graduate and one university-enrolled female student each year. • **Lauren Paulson** received the John Leland Atwood Graduate Award. The $1,250 award recognizes a student actively engaged in research in the areas covered by the technical committees of AIAA. • AE Ph.D. student **Polina Verkhovodova** and **Ishani Peddi** (BSE 2025) an incoming master's student, were selected into the inaugural class of the Matthew Isakowitz Commercial Space Scholars. • Team Alpha received the top Aerospace Engineering Prize at the Spring 2025 Capstone Design Expo for their homeland defense interceptor (HDI) vehicle design, MQ-25 Horsefly. Team members included: **Papa Quainoo, Jacob Labaza, Ethan Das, Dmitri Palmer, Mark Gorrow**, and **Calvin Tomsic**. • Nine Georgia Tech aerospace engineering students specializing in vertical lift were awarded Vertical Flight Foundation (VFF) scholarships. Recipients include: **Zoelle Wong, Isabelle Sanz, Irelyn Meckley, Heather Beers, Howon Lee, Pranav Sridhar, Gray Simmons, Caden Perry,** and **Cory Chianello.** • **Kush Bandi** received the Aerospace Engineering Outstanding Senior Scholar Award for $1,000 for the highest cumulative GPA in the AE School. • **Anisha Singhatwadia** received the $1,000 Donnell W. Dutton Outstanding Senior in Aerospace Engineering Award for her excellence inside and outside of the classroom. The following AE students received Women in Engineering Awards: **Devanshi Bhargava, Cathleen Bolger, Grayson Caine, Summer Chirpich, Lindsey Chiu, Sana Churi, Anushka Dharmasanam, Hebah Fadah, Marley Handler, Grace Kang, Nandini Kotamurthy, Rishita Mhatre, Leslie Nava, Shreya Nimmagadda, Johana Stuart, Trish Tran, Rebecca Wang, Abby Wojnowski, Caelan Wommack, Joanna Xiao**, and **Abigail Yohannes**.


Ramblin' Rocket Club


Ziqin (Grace) Ni


Catherine Fang


Andra Oltean


Duncan Waanders


Zachary Steven Grieser


Adhiraj Bhagat


Abraham Atte


Lin Al Atik


Alfonso Lagares De Toledo


Leslie Nava

Kush Bandi

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