

# AE at a Glance



#2

## Undergraduate AE program in the nation

U.S. News & World Report,  
2023 Best Colleges  
#1 among publicly-funded institutions

#4

## Graduate AE program in the nation

U.S. News & World Report,  
2023 Best Colleges  
#1 among publicly-funded institutions

► [ae.gatech.edu](https://ae.gatech.edu)

## OVERVIEW

### Degrees Offered

- **BS** in Aerospace Engineering
- **MS** in Aerospace Engineering
  - Distance learning option
- **PhD** in Aerospace Engineering

### Multidisciplinary Research Areas

- Cyberphysical Systems, Safety, Security, & Reliability
- Large-Scale Computations, Data, & Analytics
- Mechanics of Multifunctional Structures and Materials
- Robotics, Autonomy and Human Interaction
- Space Exploration & Earth Monitoring
- Sustainable Transportation & Energy Systems
- System of Systems and Complex Systems Integration
- Vertical Lift and Urban Air Mobility

### Academic Disciplines

- Aerodynamics & Fluid Mechanics
- Aeroelasticity and Structural Dynamics
- Flight Mechanics & Controls
- Propulsion & Combustion
- Structural Mechanics and Materials Behavior
- Systems Design & Optimization

## STUDENTS

**1,100+** undergrad students

**850+** graduate students

**13+** student groups

- AeroAfroAstro
- American Institute of Aeronautics and Astronautics (AIAA)
- GT Motorsports
- GT Off-Road Club
- Ramblin' Rocket Club
- School of Aerospace Engineering Student Advisory Council
- Sigma Gamma Tau
- Students for the Exploration and Development of Space (SEDS)
- Vertical Flight Society (VFS)
- Women of Aeronautics and Astronautics
- Yellow Jacket Flying Club
- Yellow Jacket Space Program
- Yang Aero Maker Space

► [ae.gatech.edu/student-life-outside-classroom](https://ae.gatech.edu/student-life-outside-classroom)

**80%**

of students are involved in undergraduate research before they graduate

**69%**

of undergrad students participate in an internship before they graduate

## FACULTY



**\$40M**

annual research awards (CY22)



**62+** academic faculty members

► **41** tenured/tenure-track

► **21** professional-track

► Actively recruiting



**52+** research faculty members



**AE faculty are members of prestigious societies & national organizations**

- National Academy of Engineering (NAE)
- American Institute of Aeronautics and Astronautics (AIAA)
- The Combustion Institute (CI)
- American Society of Mechanical Engineers (ASME)
- The Royal Aeronautical Society (RAS)
- American Helicopter Society (AHS)
- Institute of Electrical and Electronics Engineers (IEEE)
- American Astronautical Society (AAS)



# Investing in the Future

Preparing future leaders in aerospace engineering is a crucial mission of the Daniel Guggenheim School of Aerospace Engineering. The School stands on a firm foundation that is ready to expand to meet the needs of the field. The Georgia Institute of Technology has a dedicated team of faculty, students, researchers, and alumni pushing the boundaries in innovation and creativity. Our robust academic curriculum and award-winning tradition of excellence in research provide fertile ground for growth.

Our supporters have a unique opportunity to join us as we take our aerospace engineering program to the next level. Our success will be determined by our ability to secure the financial resources necessary to **build state-of-the-art facilities, promote education, collaboration & research, and prepare the next generation of aerospace engineers.**

Your support will help us to expand our reach and continue our legacy of success. Our success will be determined by our ability to secure the financial resources necessary to build state-of-the-art facilities that will promote education, collaboration, and research.

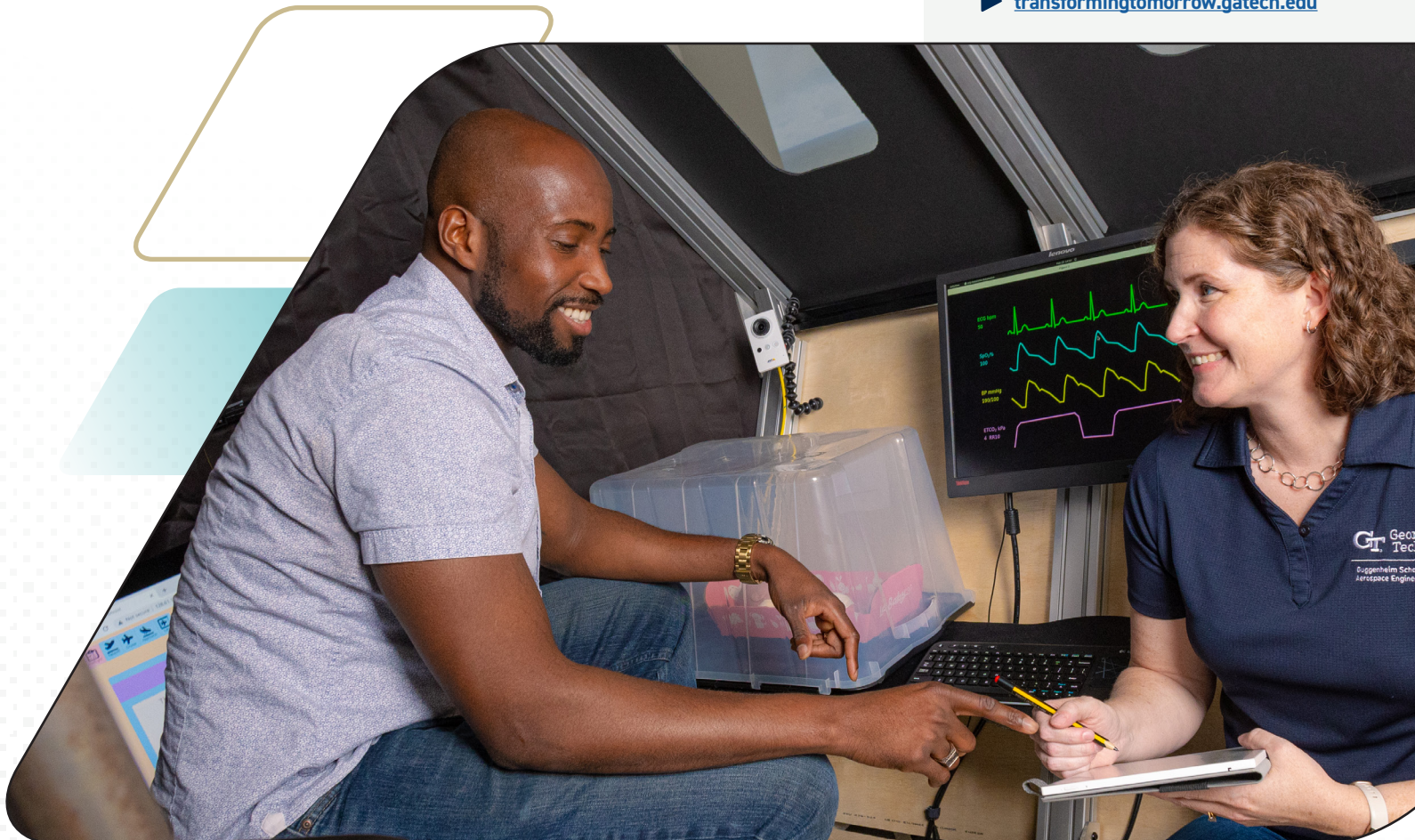
## About Transforming Tomorrow:

Over the next five years, with the support of alumni, parents, friends, corporations, and foundations, Georgia Tech can secure the resources that will help us achieve the most ambitious goals in our history.

This campaign will build a foundation for advancing the Institute and its impact — on people's lives, on the way we work together to create innovative solutions, and on our world — for decades to come.

We have a unique goal for this campaign — a historic number among mathematicians and computer engineers, and a playful Yellow Jacket homage to some of the Institute's greatest historical accomplishments and milestones:  **$2^{31}-1$  (or \$2,147,483,647).**

► [transformingtomorrow.gatech.edu](https://transformingtomorrow.gatech.edu)







*The Daniel Guggenheim School of Aerospace Engineering prioritizes...*

## Building Space

The School strives to lead in the field of aerospace and beyond, and updated facilities will help the School realize its full potential. Current aerospace engineering class locations are dispersed throughout multiple buildings across campus, with the main administrative and teaching spaces housed in the 1930s Guggenheim building and 1960s Montgomery Knight building. Georgia Tech sees capital improvements as an essential factor in propelling the School's expansion and realizing its transformational goals.

To support and educate tomorrow's aerospace engineers, the School hopes to build a new 125,000 square-foot building for aerospace-related education and research. The proposed building for the School will include four main space categories – teaching, research, offices, and collaboration – directly supporting the strategic plan framework for both growth and expansion.

As the School's success attracts more students, a top-notch facility will entice the best and brightest. The current facility now suffers from inadequate and end-of-life mechanical and functional space.

The future multidisciplinary facility will house classrooms, labs, and project spaces to connect Georgia Tech students, faculty, researchers, staff, and industry partners. By focusing on collaborative spaces for interdisciplinary research and student engagement, the new building will offer the space and resources for engineers to work together and solve complex problems.



*Conceptual design  
of the new facility.  
Subject to change.*





# Building Space



## Ways to Give

To enable the School to attract, retain, and inspire the best and brightest students from all backgrounds, we dedicate ourselves to building a School whose physical environment — facilities, equipment, offices, classrooms and laboratories, and essential services — encourages the accomplishment of all of our goals and make for an inspiring environment.

The School is currently spread across seven buildings on the Georgia Tech campus. A state-of-the-art facility will offer a more efficient and effective way to serve our students that will improve teaching and learning, research, and collaboration. This new facility will foster faculty, student, staff, and industry collaboration and partnerships that will grow and meet the current and future needs of the School.

To meet growth, the School has identified the following critical space needs:

- ▶ Teaching Laboratories
- ▶ Classrooms
- ▶ Offices
- ▶ Student-Centered Spaces
- ▶ Research and Specialty Labs
- ▶ Maker Space
- ▶ Flight Simulation
- ▶ Machine Shop
- ▶ Wind Tunnels
- ▶ Mission Control Center

### NAMING OPPORTUNITIES

There are many ways you can give financially to support capital improvements. New facilities are no longer possible without philanthropy from private donors. Your support will make a difference for current and future generations of Georgia Tech students.

### MULTIPLE FACILITY SPACES

You can help our faculty do their best teaching and research by making a gift to support the operation of the School's classrooms, laboratories, and maker spaces.

To inquire about making a gift, contact the AE School Development Director, Farah Kashlan at [farah.kashlan@ae.gatech.edu](mailto:farah.kashlan@ae.gatech.edu) or 404.894.1297.





*The Daniel Guggenheim School of Aerospace Engineering prioritizes...*

# Expanding Thought Leadership

The School's dedication to recruiting and retaining top faculty has resulted in over \$40 million annually in research. Their expertise covers all three major domains in aerospace: space, fixed-wing, and rotorcraft. Through collaboration and innovation, our faculty challenge students to rethink how vehicles, systems, and humans operate together on Earth and in space.

They are committed to providing students with a world-class education and helping them achieve their goals. Whether it's interning at NASA, starting their own student organization, machining a new part, participating in a national collegiate competition, or launching a rocket, they are supported from the beginning of their college experience through graduation.

The School's faculty members are change-makers of tomorrow and they are making the difference today. The School has a number of initiatives that help K-12 students from underserved backgrounds apply to college. The programs also work closely with local schools to promote science, technology, engineering, and math education. These initiatives are spearheaded by the School's leadership and have a lasting ripple effect and create participation opportunities for students, faculty, and staff.





# Expanding Thought Leadership



## Ways to Give

Ensuring faculty have the funding and opportunities to bring their best ideas to the classroom and beyond is essential. With your help, the School will continue to provide excellent education for future generations of aerospace engineers. Funding School professorships and endowed chair positions will ensure today's students are on the cusp of technology and research while providing sustainable solutions for an evolving world.

The School is known for its rigorous academic programs and commitment to research and innovation. More than 40 tenure-track faculty members and exceptional undergraduate and graduate students have created world-renowned research teams and incubators of innovation.

Professor Stephen Ruffin first walked through the halls of Montgomery Knight in 1993. He excelled from the day he started teaching and conducting research in the Aerothermodynamics Research and Technology Laboratory. Today, he leads the NASA Georgia Space Grant Consortium (GSGC), which provides STEM education to Georgia's K-12 public schools. Their STEM initiatives include webinars, workshops, resources, and in-person demonstrations made possible by the GSGC staff and the School's student volunteers.

With your support, more faculty members like Stephen Ruffin can conduct meaningful research while also guiding tomorrow's aerospace engineers.



"Through the GSGC, we collaborate with school systems and communities to make STEM more exciting and relevant to students who may not know the unlimited possibilities in the field. If we can reduce some of the disparities in educational systems, we will produce a more educated workforce that can compete globally."

**Stephen Ruffin**  
AE School Professor  
Associate Dean for Academic Affairs,  
Georgia Tech Professional Education

### OUR TOP PRIORITIES:

#### FACULTY CHAIR

Appointment to an endowed chair is among the highest recognition presented to a university faculty member. Chair holders attract esteemed faculty and talented students, conduct research, and leverage external funding.

#### PROFESSORSHIP

These ongoing appointments help us attract and retain promising teacher-scholars.

#### EARLY CAREER PROFESSORSHIP

These term appointments allow us to attract and retain promising teacher-scholars early in their careers.

#### PROFESSOR OF PRACTICE

These expendable funds offer an immediate opportunity to support a talented researcher who has returned to the classroom.

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*The Daniel Guggenheim School of Aerospace Engineering prioritizes...*

# Preparing the Next Generation

Georgia Tech boasts one of the top aerospace programs in the country and attracts the nation's most promising undergraduate and graduate students. The School's bachelor, master's, and doctoral programs produce aerospace engineers who advance the field even before they graduate and conduct meaningful contributions throughout their careers.

The program creates proficient leaders and entrepreneurs who collaborate with internationally recognized partners in aerospace and related fields that include robotics, medicine, energy, and public service. The curriculum gives students a combination of classroom, laboratory, research, and work opportunities that ensure their knowledge and skills exceed the complex demands of today's workplace and graduate programs.



*"I have been interning at NASA Langley Research Center remotely since Fall 2020, doing computation fluid dynamics (CFD). I get to work with various NASA researchers, and it's been a great experience - one of the huge reasons why I'm now pursuing my Ph.D."*

**Preethi Mysore, B.S.A.E. 2022**  
*Current graduate student*





# Preparing the Next Generation



## Ways to Give

Your support will help the School provide capable, motivated, and well-prepared students with an aerospace engineering education of the highest quality that will enable them to reach their maximum potential in an ever-changing world.

The School is at the forefront of educating and preparing students for the future. Our students develop a sophisticated grasp of aerospace engineering, its foundational concepts, and its applications in science, industry, and government.

Your support is crucial in upholding our legacy of success and advancement. As the School grows, we envision a learning environment attractive to all, recognizing that the ethnic, racial, and gender distribution of our national workplace is changing, ensuring that a faculty, staff, and student body reflects this diversity, will better prepare graduates to take their places in a global community.

You can remove the financial barriers for our students and broaden access to our School. You can establish scholarships and graduate fellowships, ensuring valuable contributions in our classrooms, labs, and greater communities. You can support facility funds which will cultivate future research, learning, and preparation.

Our success will be determined by our ability to lead the movement of state-of-the-art facilities, dynamic faculty-student relationships, cutting-edge research, and a student body that reflects the vibrant international field of aerospace engineering.

### OUR TOP PRIORITIES ARE:

#### UNDERGRADUATE SCHOLARSHIPS

You can support a variety of scholarship programs, including the G. Wayne Clough Promise Scholarship and Dean's Scholars Program. Funds can build an endowment or be immediately expendable.

#### UNDERGRADUATE RESEARCH

Endowed or expendable, these funds support students pursuing a full year research experience.

#### GRADUATE FELLOWSHIPS

Support the next generation of researchers and teacher-scholars with funding from full President's Fellowships to top-off awards that provide additional support to students. Funds can build an endowment or be immediately expendable.

#### GRADUATE RESEARCH

Endowed or expendable, these funds support students their master's and/or doctoral degrees.

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