Scott Horowitz, MS AE 1979, PhD AE 1982, enjoyed a successful career as a NASA astronaut, flying in four space shuttle missions. He is one of many leading figures in the field who participate in lecture series, symposia, and other events that augment the School’s teaching and research.

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For more information about the Campaign or the form of a gift, please contact:

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A Message from the Chair

The faculty, students, and staff of the Daniel Guggenheim School of Aerospace Engineering at Georgia Tech never fail to impress in their ability and dedication to keeping the School at the forefront of the challenging and ever-changing field of aerospace engineering.

Meeting the challenges and taking maximum advantage of the changes in education and research, however, require significant resources. Among our most valuable resources are the many loyal alumni and corporate partners beyond the campus who support the School.

We have recently added new faculty and new instructional and research activities to the traditional core disciplinary competencies that are the foundation of the Guggenheim School’s strength. At the undergraduate level, we are encouraging hands-on research involvement, an Honors Program that acts as a springboard to graduate work, and a new International Option that recognizes the burgeoning globalization of the aerospace industry. In the arena of cutting-edge research, new faculty have taken substantial numbers of graduate students into such promising areas as ionic propulsion for space applications, air transport terminal operations as they influence aircraft design, and architectural planning of space satellite constellations.

Since its inception, the Daniel Guggenheim School of Aerospace Engineering at Georgia Tech has been a leader in the programs of instruction and research that constitute higher aerospace engineering education. With your support, we can maintain our position in these vital enterprises. To help us expand our education and research efforts in fields that are essential to the aerospace engineering community, we seek endowments for chairs and professorships; undergraduate scholarships and graduate fellowships; support for building renovations and enhancements to our combined student library/study space; and increased laboratory space for the fundamental aerospace research that drives innovations in applications.

Please join us as we build on our strong tradition of leadership and distinction among the nation’s best schools, and take on the challenges of the twenty-first century.

Sincerely,

Vigor Yang
William R. T. Oakes Professor and Chair
Taking Flight

In 1932, the Daniel Guggenheim School of Aeronautics at Georgia Tech granted its first bachelor’s degree to thirteen students. Today, the Guggenheim School of Aerospace Engineering prepares a total enrollment—undergraduate and graduate—of over a thousand students for careers in aeronautics and astronautics. With academic specialties in fluid mechanics, structural dynamics and materials, flight mechanics and controls, propulsion and combustion, and system design and optimization, the Guggenheim School is taking flight, creating new technologies for rotorcraft and fixed-wing aircraft, planetary exploration, safer and more efficient air travel, and alternative energy.

Since the School’s founding, undergraduate course offerings have grown from six to more than forty. Graduates of the Guggenheim School are prepared for leadership in the field of aerospace engineering through coursework in the design, manufacture, and maintenance of aerospace vehicles for use in transportation, defense systems, and space exploration. With support from private philanthropy, there is no limit to what the School can accomplish in the twenty-first century.

Preparing the Next Generation

Aerospace engineering students at Georgia Tech benefit from state-of-the-art facilities and equipment outfitted with advanced diagnostic and computational systems. The School’s major facilities include the High-Power Electric Propulsion Laboratory, where students and faculty study the fundamental plasma physics issues associated with high-power electric propulsion devices, and the Ben T. Zinn Combustion Laboratory, home to compelling new research in combustion, propulsion, and energy conversion systems.

But the real foundation of this successful program is the Guggenheim School’s award-winning faculty. These talented men and women prepare students for successful careers in aerospace engineering while advancing the state of the art in propulsion devices, and the Ben T. Zinn Combustion Laboratory, plasma physics issues associated with high-power electric propulsion, and computational fluid dynamics. The School is leading the way in improving system reducing costs, and increasing safety—all of which are crucial to both national and global interests. Members of the faculty direct major research programs in optical-sensing flight control systems and unhabited aerial vehicle development, and the School collaborates with Georgia Tech’s College of Computing to help minimize errors in developing embedded software.

Among the nation’s highest research priorities are the reduction of airside congestion and the resulting excessive burning of fuel, and the further improvement of the safety record in commercial air transportation. Through wide-ranging research at the nexus of human performance and technological advances, the Guggenheim School is working to increase the safety of millions of people and reduce the environmental impact and carbon footprint of air travel.

Meeting New Challenges, Solving New Problems

As the Guggenheim School has grown, so has the need to address the challenges presented by an increasingly competitive global marketplace. In order to compete in today’s economy, aerospace engineers must speak one or more foreign languages, and have an understanding of and appreciation for global history, politics, economics, and cultures as well as technological and environmental issues. As a result, the School has made internationalization a major goal. Students participate in study abroad programs, and Georgia Tech now offers aerospace engineering instruction in England and France.

The Guggenheim School also offers a Bachelor of Science in Aerospace Engineering International Plan degree option, which integrates global preparation into students’ undergraduate coursework through foreign-language study and international experiences.

Through cutting-edge research and applications in digital technology, commercial air transportation, and space technology, the School is leading the way in improving systems, reducing costs, and increasing safety—all of which are crucial to both national and global interests. Members of the faculty direct major research programs in optical-sensing flight control systems and unhabited aerial vehicle development, and the School collaborates with Georgia Tech’s College of Computing to help minimize errors in developing embedded software.

Guggenheim School continues to attract the brightest, most talented undergraduate and graduate students, it must secure the resources to increase the number of scholarships and fellowships.

CAMPAIGN GEORGIA TECH
Funding the Future

The growing number of operations in space presents a tremendous opportunity in research and education. Many highly talented students are looking for educational and research opportunities with space applications. In the past decade, the School has added faculty with a specialization in space technology and created courses that will attract the very best students to Georgia Tech. Through its active role in a consortium of universities that manages the National Institute of Aerospace, the School has also strengthened research in a wide range of aerospace technologies, system integration, information technology, and energy issues.

Today, the Guggenheim School is among the leading schools in aerospace engineering in the United States, but public research funding is increasingly uncertain and cannot fully meet its needs. Among the most pressing challenges is expanding quality research space. The School utilizes several buildings, each of which is in need of renovation and modernization. In particular, the Daniel Guggenheim Building—

The Experimental Aerodynamics Group utilizes several wind tunnels for research in rotorcraft aerodynamics, turbulence, and video and laser imaging. These facilities offer critical research opportunities that lead to breakthrough applications for improving aircraft design and performance.

the centerpiece of the School and a signature building on campus—must be fully refurbished, with expanded state-of-the-art spaces and equipment that both reflect and bolster the School’s preeminence in the field. Without urgently needed building renovations, increased student library space, and more laboratories and classrooms, the School will be unable to keep pace with the standards required for leading-edge education and research. The Guggenheim School is uniquely positioned on the Georgia Tech campus to allow for expansion without increasing its environmental footprint. By more effectively utilizing and reconfiguring its facilities, it will be able to provide students and faculty members with an environment in which innovation can flourish.

Now is the time for supporters of the Guggenheim School of Aerospace Engineering to help fund the future. Private philanthropy has never been more important in ensuring that the School continues to lead the way in aerospace engineering research and education. With the support of committed donors, the School can expand in critical fields and continue to attract the most gifted students and faculty in the nation.

Dimitri Mavris, Boeing Professor of Advanced Aerospace Systems Analysis, is the director of Georgia Tech’s Aerospace Systems Design Laboratory. This research laboratory supports undergraduate, graduate, and postdoctoral students in aircraft, engine, and naval systems design. Faculty researchers are leading the way in developing applications for government and industry that improve not only performance but also safety, efficiency, environmental impact, and cost.