



The Georgia Tech Fund for Scientific Discovery

The Georgia Institute of Technology is a leading research university committed to improving the human condition through advanced science and technology. Georgia Tech's preeminent faculty in the physical sciences, life sciences, computer sciences, mathematics, and engineering attract the best and brightest undergraduate and graduate students.

In alignment with the mission of the Science Philanthropy Alliance, Georgia Tech is dedicated to providing the resources necessary for ongoing and fundamental scientific discovery. Philanthropic support from the Science Philanthropy Alliance will enable Georgia Tech to expand creative opportunities for donors to support our shared objectives for scientific research.

Georgia Tech's commitment to research in the physical and life sciences is motivated by our search for answers to some of the foundational questions that broaden and enliven the human mind while improving the human condition and the planet on which we depend. How did the universe form and under what conditions has life emerged, on Earth and elsewhere in the universe? What rules govern the evolution of living systems, and how can evolution be harnessed for new materials and cures for disease? What can we learn from basic science to improve human health and the health of ecosystems? The fields represented by these basic science activities include biology; chemistry; biochemistry; earth, atmospheric, and ocean sciences; mathematics; physics; astronomy; and psychology. Many among our engineering faculty are performing basic research in the physical and life sciences, and our faculty from across the disciplines collaborate to advance their research efforts.

About the Georgia Institute of Technology

Georgia Tech is ranked No. 7 by *U.S. News & World Report* among the best public universities in the U.S. As the nation's largest and most diverse engineering program, Tech's College of Engineering is ranked 4th, and all of its undergraduate programs are among the top six of their respective areas for the fifth consecutive year. Tech's undergraduate computer science

program ranks No. 8 on the 2018 *Times Higher Education World University Rankings*, while its graduate computer science program is ranked No. 9 by *U.S. News & World Report*.

The Institute's construction and renovation projects underscore its commitment to building a world-class educational environment, ensuring state-of-the-art facilities to advance the continued progress and success of the people and programs housed within. A recent example is the 2015 opening of the Roger A. and Helen B. Krone Engineered Biosystems Building (EBB). EBB was designed specifically to bring together researchers from different disciplines so that, as a community, Tech faculty and students drawn from biology, chemistry, and engineering can elevate our understanding of living systems and bring about new cures for diseases. It houses the Children's Pediatric Technology Center, a research partnership with Children's Healthcare of Atlanta and Emory University.

In FY 2017, Georgia Tech had \$824.8 million in total research expenditures, including 46 percent from the Georgia Tech Research Institute (GTRI).

In December 2015, Georgia Tech concluded the most successful campaign in its history. The Institute secured over \$1.8 billion in new gifts and commitments, with \$958 million specifically directed for its six colleges. At \$96 million, the College of Sciences ranked in the top three and received approximately ten percent of these directed funds. This achievement complements the many interdisciplinary centers, programs, research, and student support that directly contribute to the proliferation of basic science on our campus.

Leveraging Existing Funding and Expanding Philanthropic Opportunities

The **Georgia Tech Fund for Scientific Discovery** is a collection of funding resources for life and physical sciences, which are leveraged creatively to maximize impact. The Fund includes philanthropic opportunities to prepare the next generation of thought-leaders, elevate basic science at Georgia Tech and beyond, and perpetuate a legacy of scientific research and discovery. The Fund comprises several interacting programs managed by the dean of the College of Sciences and the executive vice president for research. Some programs have existed for many years and are expected to continue with periodic evaluation. Others are experimental and flexible, so that funds may be allocated based on successes as well as faculty and student interest. New programs will be concentrated in the area of fellowships for PhD students and postdoctoral researchers in an effort to attract exceptional talent.

Existing funding consists of both Institute funds and private philanthropic sources, with income from both endowed and annually expendable funds, broadly defined by the following categories:

Faculty-led Research Centers, Experimental Initiatives, and Seed Grants

Funds directed for these purposes bring together interdisciplinary teams of researchers to pursue new knowledge with the potential for transformational scientific achievement across both life and physical sciences. *Current annual expenditures total approximately \$769,000, with annual grants ranging from \$30,000 and up.*

Faculty Development Funds

Georgia Tech is committed to directly funding research for newly hired faculty, and provides equipment, supplies, personnel, and infrastructure in the sciences and mathematics. Funded opportunities for shifts in research direction by established faculty are also available. The Institute directs similar levels of support to engineering, computing, and other research fields directly related to basic science. In addition, privately-funded endowments held by the Georgia Tech Foundation support multiple long-term faculty chairs in biological sciences, chemistry and biochemistry, earth and atmospheric sciences, mathematics, physics, psychology, and engineering. *Current annual expenditures total approximately \$448,000, with annual grants and endowment distributions ranging from \$1,200 and up.*

Funds for Discretionary Support

Endowed funds directed for basic science activities, programming, and research at the discretion of the dean of the College of Sciences offer flexibility to pursue new, high-risk research ventures. These endowed funds also sustain support for long-term projects and/or may close the gap between needs and alternative funding sources. *Current annual expenditures total approximately \$109,000, with endowment distributions ranging from \$1,000 and up.*

Graduate and Postdoctoral Fellowship Funds

In addition to existing and ongoing programs, the **Georgia Tech Fund for Scientific Discovery** will focus on growing philanthropic support for new endowed and expendable graduate and postdoctoral fellowships in the physical and life sciences as part of an Institute-wide initiative.

The top-notch quality of students is the foundation for the research productivity and reputation of universities like Georgia Tech. Global competition for the best graduate students and postdoctoral researchers has made it critical to offer prestigious fellowships that enable graduate students to develop their scientific talents with more independence than is possible when supported by faculty-led research grants. The current flat and/or declining budgets of federally-funded research programs, coupled with increasing costs of graduate education and postdoctoral salaries, will make the long-term growth of training programs unsustainable without funding sources beyond federal grants. The situation is compounded by the fact that faculty must report progress on federally funded projects at regular intervals yet graduate students need time to gain experience and have opportunities to test new ideas. As a solution, multiple organizations including the American Chemical Society recommend partially decoupling funding of graduate students from federally funded grants by increasing the proportion of graduate students funded on fellowships, while maintaining their participation in peer-reviewed research. If implemented at the national level, this model poses a risk in that competition for PhD and postdoctoral fellowships will favor applicants at the most elite universities, concentrating the nation's graduate and postdoctoral training opportunities at a very small number of already wealthy institutions. Georgia Tech is actively seeking philanthropic support in order to offer more fellowships for PhD students and postdoctoral researchers, providing them with the resources necessary to conduct their independent research while encouraging them to partner with Georgia Tech faculty for training. *Current annual expenditures total approximately \$189,000.*

Philanthropic Opportunities

Each of the four fund categories outlined above which comprise the **Georgia Tech Fund for Scientific Discovery** are open to donors at all levels, for both expendable and endowed purposes. The Institute places a particular focus on securing new philanthropic support at a level of \$25,000 or more, which may be pledged over a period generally not to exceed five years. Furthermore, it is an institutional priority at this time to expand the resources available for graduate and postdoctoral fellowships. Moreover, Georgia Tech welcomes the opportunity to pursue transformative philanthropy which offers significant momentum in our efforts to advance the threshold of scientific discovery across the Institute.

Donor Objective	Sample Philanthropic Commitments for Georgia Tech	Where this fits within the Georgia Tech Fund for Scientific Discovery
Support research initiatives for specific diseases (e.g., cancer or Alzheimer’s)	<ul style="list-style-type: none"> → \$10 Million endowment to establish new interdisciplinary research center or \$400,000 annual expendable gifts for term-of-years naming → \$50,000 seed grant for new research project 	Faculty-led Research Centers, Experimental Initiatives, and Seed Grants
Support faculty through a chair or professorship	<ul style="list-style-type: none"> → \$2 Million endowment for chair or \$80,000 annual expendable gifts for term appointment → \$1 Million endowment for professorship or \$40,000 annual expendable gifts for term appointment 	Faculty Development Funds
Provide general support for scientific research	<ul style="list-style-type: none"> → \$25,000 endowment (minimum) for unrestricted support in the College of Sciences → Annual expendable gifts of any amount 	Funds for Discretionary Support
Support graduate students in the College of Sciences	<ul style="list-style-type: none"> → \$25,000 endowment (minimum); \$750,000 endowment (full) for graduate fellowships → Annual expendable gifts of any amount directed to graduate fellowships 	Graduate and Postdoctoral Fellowship Funds

Governance and Balance

Each program supported by the **Georgia Tech Fund for Scientific Discovery** allocates funds according to policies and procedures approved by the dean of sciences and/or the executive vice president for research, as appropriate. Most programs use an internal peer review process, executed at the school (departmental) or college level. The executive vice president for research maintains a faculty-driven peer review committee for all internal funding decisions within their domain, with representation from across schools and colleges at Georgia Tech. Georgia Tech's existing programs reflect a balance of single investigator research and collaborative, interdisciplinary efforts. Georgia Tech centers are multi-disciplinary and include multiple investigators. Faculty fellowships are based on individual goals and plans, which are typically integrated within an integrative and collaborative research program. At Georgia Tech, interdisciplinary and collaborative research occurs seamlessly and successfully across disciplines and includes all levels of faculty.

Facilitating major changes in the research directions of mid-career and senior faculty is the primary goal of the Faculty Development Grant program in the College of Sciences. This program offers tenured associate and full professors the opportunity to have an immersive research experience away from the Georgia Tech campus in order to test new research questions. In addition, early and mid-career science faculty are eligible for funding directed for high-risk projects. For example, seed grants funded by Georgia Tech's Petit Institute for material science, cancer biology, brain imaging, and interdisciplinary research are designated solely for new projects that cannot yet seek federal funding due to the newness and untested nature of the ideas.

Funds are balanced between endowment and expendable sources, with much of the latter being long-term commitments. In the future, we expect the endowed portion of the **Georgia Tech Fund for Scientific Discovery** to increase while the expendable portion will remain the same.

Boundless Frontiers in Scientific Discovery

At Georgia Tech, life and physical sciences are deeply embedded in all that we do. In keeping with the mission and objectives of the Science Philanthropy Alliance, Georgia Tech is committed to advancing basic science through strategic investments to ultimately improve the human condition. With the momentum of **the Georgia Tech Fund for Scientific Discovery**, we will continue to push the boundaries of knowledge in the pursuit of discovery. Thank you for your consideration of the opportunity to partner with the Science Philanthropy Alliance.