CREATING THE NEXT

2015 INSTITUTE ANNUAL REPORT

Georgia Tech

IMPROVING HUMAN HEALTH Georgia Tech's Engineered Biosystems Building (EBB) was dedicated in September 2015. The 219,000-square-foot facility was designed to encourage interdisciplinary collaboration among researchers who are formulating the next bioscience and biotechnology discoveries, breakthroughs that will vastly improve human health and quality of life. State funds covered more than half the building's $113 million cost, with the remainder provided by private donors — including Children's Healthcare of Atlanta, Georgia Tech's research and innovation partner in pediatrics.

CREATING THE NEXT

The timeless quest of "Creating the Next" is never far from the minds of Georgia Tech students, faculty, and researchers. That's because working today to meet the demands of the future is a Georgia Tech standard. The determination to ensure a healthier, more sustainable, and more prosperous tomorrow infuses our community with a forward-looking spirit of reasoned optimism.

The idea of creating the next ingenious innovation to solve a grand challenge of our time inspires our faculty and students, who operate in an environment that encourages them to visualize their bold aspirations without dwelling on constraints or obstacles. The work of Professor Ravi Bellamkonda and his research team in the Coulter Department of Biomedical Engineering serves as an outstanding example. This research holds great promise for vastly improved treatment of brain tumors through highly targeted drug delivery. The project received a $6.5 million grant from the Marcus Foundation.

G.P. "BUD" PETERSON

But it's not just our faculty and students who are passionate about making a meaningful impact on the world. Alumnus Chris Klaus from the Class of 1996 is renowned for founding Internet Security Systems and then Kaneva, both of which have proven to be remarkable successes. Chris has made a tremendous investment in the potential of our students by establishing CREATE-X, a collection of programs designed to boost students' confidence as entrepreneurs and give them the tools they need to establish startups. CREATE-X is uniting new and existing programs with a common goal: equipping undergraduate students with the knowledge, skills, abilities, and experiences to be entrepreneurially confident.

Our corporate and industry partners also play a key role in helping to bring life to "the next." Joining our powerful innovation ecosystem in Technology Square this past year were The Home Depot Technology Center and the Energy Innovation Center (established by the Southern Company, parent company of Georgia Power). Seven Fortune 500 companies have opened innovation centers there, and we are in discussions with others. These forward-thinking, iconic leaders are attracted to Georgia Tech because of the unrivaled opportunity to work with our gifted students and faculty. The solutions forged in these innovation centers will truly shape our future for the better.

And while it's always gratifying when the superb work of our community is recognized, having President Barack Obama visit with us at McCamish Pavilion and hail us as "one of the finest technical institutes in the world" was a genuine thrill.

This 2015 Institute Annual Report is filled with many more compelling examples of Georgia Tech community members who are passionate about "creating the next." I hope you find their stories as moving and inspirational as I have.

G.P. "BUD" PETERSON
PRESIDENT, GEORGIA INSTITUTE OF TECHNOLOGY

HPCC: ©John Portman & Associates

ADVANCING BIG DATA A major expansion of Technology Square will begin in 2016 with the groundbreaking of the High Performance Computing Center, which will be located on Spring Street near the Scheller College of Business. The 750,000-square-foot facility will house academic and leading-edge research programs in computing and advanced big data analytics.

BRINGING OUR STRATEGIC PLAN TO LIFE

One of the hallmarks of a great university is the extent to which its people actively plan for its future success and relevance — for what comes next. The vision articulated in Georgia Tech's strategic plan, "Designing the Future," is being made a reality by the efforts of countless faculty, staff, and students.

CREATING SUSTAINABLE COMMUNITIES

A kickoff event was held in March 2015 to introduce the campus to the Serve — Learn — Sustain initiative, which serves as the Quality Enhancement Plan — a part of the Institute's reaffirmation of accreditation process. "Creating Sustainable Communities" is the theme of the initiative. The kickoff event included an organization fair that provided student organizations related to community engagement and sustainability the opportunity to provide information to interested students. Two Serve — Learn — Sustain information sessions were also held.

Serve — Learn — Sustain

Creating sustainable communities is the focus of Serve — Learn — Sustain, an institutional effort to equip Georgia Tech students to learn and serve around the theme "Creating Sustainable Communities" through engagement with content and context. The initiative was developed as the Institute's Quality Enhancement Plan (QEP), a key component of its reaffirmation of accreditation process that occurs every 10 years.

A survey of recent alumni revealed that they would have liked a better understanding of the social, cultural, and environmental impact of their professions once they got out into the "real world." The new QEP has been designed to address this, said Computer Science Professor Ellen Zegura, one of the faculty co-leaders of the initiative.

"What Serve — Learn — Sustain will mean for our students' education is really new and will take our impact on students to the next level," Zegura said. "We want to create opportunities for students to work on community-focused projects as part of their coursework, using their disciplinary knowledge."

"We're defining sustainable communities as communities where economic prosperity, positive social outcomes, and positive environmental outcomes all go hand in hand," said Operations Management Professor Beril Toktay, who is co-leading the effort with Zegura.

A kickoff event in March introduced Serve — Learn — Sustain to the campus community.

ELLEN ZEGURA

BERIL TOKTAY

The Critical Role of the Arts

Over the past few years, the arts have emerged as an important aspect of the Georgia Tech experience, for students as well as other community members. In support of this aspiration, Tech's Arts Advisory Board has secured a permanent sculpture collection.

The one-year run of Georgia Tech's *Engineered Art: An International Sculpture Exhibit* ended in August 2014, when seven of the 15 pieces were shipped to Canada. With support from the Arts Advisory Board, however, the other eight remain on permanent display.

The Arts Advisory Board was instrumental in establishing a challenge grant of $150,000 to inspire further charitable gifts specifically for the acquisition of art through the newly created Art Acquisition Fund. The challenge grant matches, dollar-for-dollar, gifts to support the acquisition of art for the campus in order to accelerate a permanent collection of enduring quality for the Georgia Tech community to enjoy. It serves as the funding source for the eight sculptures in the exhibition curated by John Henry, the internationally acclaimed, Chattanooga-based sculptor.

"We are grateful for the support of the Arts Advisory Board in the establishment of an Art Acquisition Fund that has allowed Georgia Tech to acquire a large portion of the Engineered Art collection, and acquire additional pieces as the opportunity presents itself," said Board Chair Sonny Seals. "The Arts Advisory Board has accomplished a lot in a short period of time. It should be noted that a substantial portion of the board are not Tech alumni – they are friends of Tech who understand the importance of the arts to the Institute as we embrace a more arts-centric student experience."

Provost Rafael Bras has been a passionate advocate for infusing the arts into the Georgia Tech student experience. Bras spearheaded the creation of the Office of the Arts as well as the faculty-led Council of the Arts.

LIBRARY OF THE FUTURE Construction of the Georgia Tech-Emory Library Service Center (LSC), located at Emory's Briarcliff Road property, is scheduled for completion in fall 2015. The LSC will house high-density shelving designed to ensure the long-term preservation of and access to library collections.

Library Service Center

A critical tool for student learning and faculty scholarship is the Georgia Tech Library, which is undergoing a dramatic transformation. In partnership with Emory University, Tech is opening a joint Library Service Center (LSC), a collaborative project that will house a shared collection of materials, provide delivery services, and free up space on the main campuses of both universities.

The majority of collections currently in the Georgia Tech Library will move to the LSC, providing space for the Library Renewal Project, a multi-year plan to reimagine Tech's library spaces and services for the 21st century. For Emory, the LSC will provide a single off-site location for consolidating materials already housed at other locations, and free up much-needed space in its main campus library.

The ultimate goal of the LSC partnership is to create a seamless collection with all Georgia Tech and Emory resources (eventually including electronic resources, where possible) available to students, faculty, and staff in both institutions, according to Catherine Murray-Rust, vice provost for learning excellence and dean of libraries at Georgia Tech. The intent is to collaboratively manage a single collection while providing the best possible service and access to materials with a focus on user needs, she says.

"By relocating the collection to the LSC, we're able to maximize the utilization of campus space and transform the Georgia Tech Library into an inspiring place for people to create their best scholarly work," says Murray-Rust.

A CULTURE OF

STUDENT SUCCESS

"Creating the Next" is an activity that Georgia Tech students are eager to pursue. Our students have a peerless reputation for applying their education in ways that solve problems and create value, and the honors and accolades they receive as a result are indeed impressive.

ENTREPRENEURIAL SUCCESS AND SUPPORT

CREATE-X

Christopher Klaus, a College of Computing alumnus with an international reputation for entrepreneurial success, has made a gift to Georgia Tech establishing CREATE-X, a suite of programs designed to boost students' entrepreneurial confidence and give them the tools they need to establish startups. CREATE-X unites many existing programs — such as Startup Lab — under a single structure with the common goal of equipping undergraduate students with the knowledge, skills, abilities, and experiences to be entrepreneurially confident.

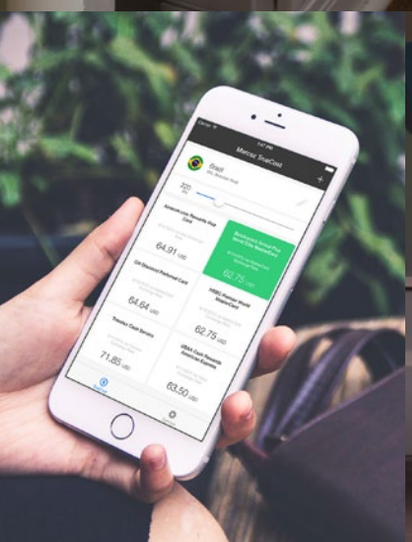
Klaus, the namesake of the Institute's Klaus Advanced Computing Building, has discussed his own experiences in entrepreneurship with students in the Startup Lab course. Founder of Kaneva, a social gaming company, Klaus also praised Startup Summer — a 12-week internship for students who want to launch startups based on their own inventions and prototypes — as a transformational opportunity for Tech students.

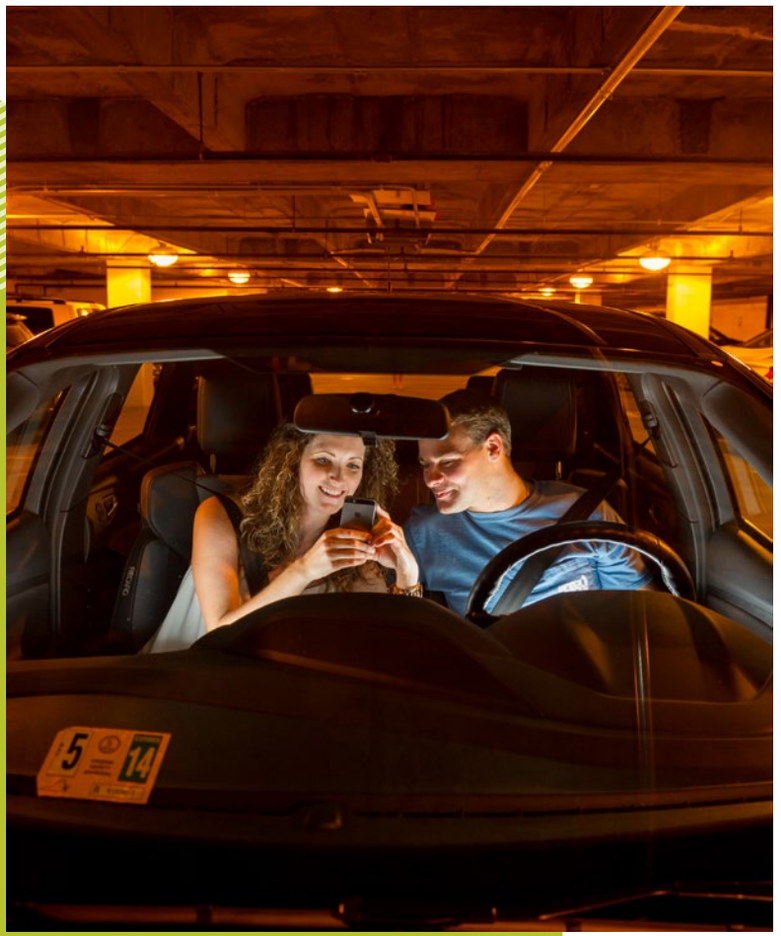
By keeping students in school while they build their businesses, Klaus says, CREATE-X will occupy a unique position among startup accelerators.

"CREATE-X will be a revolutionary program for Georgia Tech, and I'm thrilled to help the Institute's efforts in getting students excited about innovation and entrepreneurship," Klaus says.

REPLANTABLE Recent Georgia Tech graduates Ruwan Subasinghe (left) and Alex Weiss founded the startup Replantable. Their team created a soilless growing system using LED lights, which eliminates the need for direct exposure to sunlight. Their product is for sale at Sevananda Natural Foods Mart in Atlanta's Little Five Points neighborhood.

CHRIS KLAUS





Rachel Ford and John Gattuso of FIXD

FIXD

The check engine light suddenly flashes and immediately the driver is overcome with worry. How serious is the problem? Is it OK to drive? How much is this going to cost to get fixed?

These questions are now easily answered thanks to FIXD, a device developed by a team of Tech students.

FIXD gets plugged into a car's diagnostics port, just underneath the steering wheel. The device connects a car to a person's smartphone via Bluetooth. It explains the cause for the check engine light, diagnoses the seriousness of the problem, and provides repair estimates. The sensor also delivers updates on when the car needs repairs and regular maintenance.

"We are helping drivers understand more about their cars," said John Gattuso, the company's CEO and a senior in Tech's Woodruff School of Mechanical Engineering.

InVenture Prize

For the past six years, Georgia Tech's InVenture Prize has rewarded student innovations that solve challenging problems.

The FlameTech Grill Defender took home the 2015 InVenture Prize. Invented by computer science major Alex Roe, mechanical engineering major Scott Shroer (right), and business administration major Will Sweet (left), FlameTech is a safety device for gas grills.

The team won $20,000, and both the first- and second-place finishers will receive free U.S. patent filings and a spot in Georgia Tech's startup accelerator program, Flashpoint.

"It is really great because we worked so hard and we scraped money together. Now, this gives us a little more to go out and manufacture, print circuit boards and things," says Sweet. "It lends a lot of credibility to our product as well."

InVenture Challenge

Following the success of the InVenture Prize, Tech's InVenture Challenge began in 2012 to inspire elementary, middle, and high school students to identify a real-world problem and test a solution.

The annual competition now has a new partner in its efforts to foster students' interest in innovation, design, and engineering. IronCAD, an Atlanta-based provider of design productivity solutions, is now working with InVenture Challenge to expose more students to engineering and entrepreneurship.

"This is a fun and exciting way to inspire and reach out to the next generation of mechanical engineers," says IronCAD Chief Operating Officer Jan Tung. "We have seen success in all levels of education throughout the world using IronCAD in classrooms and competitions, and we are glad to be partnering with Georgia Tech to bring these programs to our local communities."

IronCAD's support will enhance the InVenture Challenge experience for students and teachers, says Roxanne Moore, one of the event's organizers.

"Students will now be able to design, test, and display their ideas," says Moore, a research engineer with Tech's Center for Education Integrating Science, Mathematics, and Computing (CEISMC). "InVenture allows students to think about real-world problems and engage with them in a hands-on way so that learning happens naturally."

WELCOMING OBAMA President Barack Obama gave shout-outs to George P. Burdell, the Ramblin' Wreck, and even thermodynamics homework when he came to Georgia Tech on March 10 to announce his Student Aid Bill of Rights. "It's great to be at one of the finest technical institutes in the world," Obama said. "You've got to be if the Ramblin' Wreck is still running after all these years." The president encouraged students in the pursuit of higher education and talked about ways he hopes to make it more affordable and accessible. He also asked for support from the crowd for a new declaration of values he called the Student Aid Bill of Rights.

STUDENT ACHIEVEMENTS

Global Hackathon

A group of students from Georgia Tech, Georgia State University, and Emory University won a global hackathon for creating a device designed to help farmers in developing countries.

Team Revolutionary Agricultural Technologies (RAT) won the competition in September 2014 and moved on to win a larger global competition in Boston the following month.

Graduate students Aneeq Zia and Muneeb Zia worked with their teammates to design the Tensiometer, a device that can help low-income, low-technology farmers know when and how much to irrigate certain crops, which in turn should provide better crop yield and water-use efficiency.

Guthman Design Challenge

Approximately 50 Tech students participating in the inaugural Guthman Musical Instrument Design Challenge hammered, drilled, and plucked strings as they raced to put the finishing touches on the devices they created.

Sponsored by synthesizer maker Moog and Tech's Office of the Arts, the event added a student component to the annual Margaret Guthman Musical Instrument Competition, which seeks to find the world's best new ideas in musical instrument design, engineering, and musicianship.

"It was important for us to expand the focus of the Guthman Competition toward our own campus and our own students," said Gil Weinberg, director of the Georgia Tech Center for Music Technology. "A student challenge, combined with an opportunity for students to present their inventions as part of the competition, seemed like the perfect way to do that."

A three-member team in the Guthman Design Challenge created the "VCG" instrument, which looks like a guitar but incorporates a breather controller that functions similarly to woodwind instruments.

New Police Operations Center

The Georgia Tech Police Department (GTPD) opened a new operations center last winter to provide enhanced protection for students and the campus. To support the new center, GTPD installed 26 cameras along the major arteries leading into campus. This creates a video fence around the perimeter of campus that includes more than 1,000 security cameras and 500 emergency phones, allowing for a broader view of what's going on in real time, says Chief Rob Connolly.

"This is just another tool for us to keep the campus safe," says Connolly.

In deciding where to place the cameras, GTPD reviewed prior incidents and access points to determine which locations would have the most impact.

Six students – who work part-time – monitor the cameras, seeing things officers can't. The cameras provide aerial and broader street views and have the ability to observe different angles and zoom in and out.

"This is just the beginning," Connolly said. "We are continuously finding new ways to fight crime on and around campus."

Center of Community Health and Wellbeing

With the mindset of taking a more holistic and inclusive approach to campus wellness, Georgia Tech established the Center of Community Health and Wellbeing.

"While we already have many strong and effective programs that currently serve as valuable resources, a campuswide wellness initiative will allow us to maximize resources to provide more comprehensive programs," said President G.P. "Bud" Peterson.

The Center is led by a newly established director of Community Health and Wellbeing, who is charged with overseeing existing entities and building out the new program. The new director will have responsibility for the Campus Recreation Center, Stamps Health Services, and Health Promotion.

The newly established Health Promotion function is expected to include four focus areas: prevention communications, prevention information and policy, prevention training and development, and strategic programs such as sexual violence prevention, alcohol and drug prevention, mental health, and other Institute-wide priorities. Health Promotion will also include a full-time victim advocate, who will also support sexual violence prevention and response.

Tech Joins CPREE

Georgia Tech is among a dozen institutions invited to create a new consortium to promote teaching practices that help undergraduate engineering students reflect on their experiences.

The Consortium to Promote Reflection in Engineering Education (CPREE) is supported through a $4.4 million grant from The Leona M. and Harry B. Helmsley Charitable Trust. The group will focus on first- and second-year undergraduates who want to be engineers. The goal is to enhance students' ability to learn, help a greater percentage complete their degrees, and ultimately foster a larger, more diverse, and better-trained workforce.

"Given what we know about the important role that reflective practice plays in the development of effective engineers, there is great opportunity to expand the use of reflective practice in teaching and learning within the College of Engineering and beyond," says Gary May, dean and Southern Company Chair in the College of Engineering. "This works hand in hand with Georgia Tech's commitment to developing effective practitioners who excel in complex problem solving and design."

Kick the Stigma

The Kappa Sigma fraternity hosted "Kappa Sigma Games: Kick the Stigma" in response to losing one of its own members in February 2014. The event was aimed at bringing awareness to the stigma of suicide and mental health issues.

"It was a devastating time that left us with more questions than answers, but it also brought out the best in our organization," said John Merlie, president of Kappa Sigma.

Campus groups such as the Counseling Center and Active Minds were on site, along with some external organizations, to provide information to students about resources and involvement opportunities.

The event's goal is to help students in need and equip other students to help if someone is struggling with mental health issues, and to couple these awareness efforts with a stress-relieving day of games.

FABULOUS FEATS OF FOOTBALL

After winning 11 games for only the fifth time in program history, the 2014 Georgia Tech Yellow Jackets finished No. 8 in the final AP Top 25 Poll. It was Tech's highest final AP ranking since 1990, when the Jackets finished second en route to their fourth national championship. It is also the 10th time in program history that Georgia Tech has finished in the top 10 of the final AP poll.

Student-Athletes' Academic Success

Fourteen of Georgia Tech's 17 varsity sports improved or equaled their Academic Progress Report (APR) scores from the previous year, including three Yellow Jacket teams that posted perfect scores, according to NCAA data. Four Georgia Tech teams — football, golf, women's tennis, and men's swimming — rank in the top 10 percent nationally within their sport in APR.

The APR numbers are based on a multi-year rate that averages scores from the 2009-10 through 2012-13 academic years. APR is calculated by assessing each scholarship student-athlete's retention and eligibility each semester.

The football program, which saw its APR score rise in each of the previous four years under head coach Paul Johnson, equaled its 983 score from the previous year. Tech was one of four ACC teams to rank in the top 10 percent nationally, the most of any of the power five conferences.

The men's basketball team has made remarkable APR strides under head coach Brian Gregory. Three years ago, the Yellow Jackets were saddled with APR-related penalties. However, after three consecutive single-year APR scores of 1,000, Tech (989) is tied for the fifth-best APR in the ACC and is just six points shy of the league-high score of 995.

Every Georgia Tech team is in good APR standing, meaning no team is at risk of falling below a score of 930. Failure to achieve an APR score of 930 can result in penalties consisting of post-season bans, scholarship reductions, or worse.

"Our vision is to create a top-tier athletic program that achieves excellence on both the playing fields and in the classroom," said Athletic Director Mike Bobinski. "This year's APR results are evidence of solid academic progress."

Brains and Braun

MICHAEL "TREY" BRAUN

The Georgia Tech football program is often lauded for placing greater emphasis on performance in the classroom than most other college programs. Even within the context of the school's academic rigor, offensive lineman Michael "Trey" Braun stands out when it comes to achievements off the field.

Braun, the starting left guard on one of the most efficient offensive line units in NCAA football, graduated in December 2014 with a degree in mechanical engineering. He was also a part of an award-winning group at the Capstone Expo, which showcases ideas and inventions from Georgia Tech students. Braun's team developed devices designed to help third-world nations.

Braun's Capstone group worked with Amigos for Christ, an organization founded by a Tech alumnus that runs a kitchen in Nicaragua. For their project, they worked on a new convection peanut roaster for Amigos for Christ, which used it in the production of peanut butter to help feed Nicaraguan children. Braun also worked with women in the African country of Mali on new peanut shellers as part of his Capstone project.

"The women in Mali, a lot of times they shell peanuts as part of their income. So we worked on a shelling tray that would make it easier to shell the peanuts without breaking the kernel, because when they break the kernel, that sort of ruins the sale value for them," explains Braun.

APPLYING REVOLUTIONARY DISCOVERIES

In the arena of research, the idea of creating the next has a unique immediacy. After all, a breakthrough discovery in the lab can result in a lifesaving diagnosis or treatment. Georgia Tech's interdisciplinary, highly collaborative environment inspires game-changing ideas and new technologies that help drive economic growth while improving human life on a global scale.

HEALTH AND HEALTH CARE

Treating Measles with Microneedles

A new microneedle patch being developed by Georgia Tech and the U.S. Centers for Disease Control and Prevention (CDC) could make it easier to vaccinate people against measles and other vaccine-preventable diseases.

The microneedle patch is designed to be administered by minimally trained workers and to simplify storage, distribution, and disposal compared with conventional vaccines.

The microneedle patch under development measures about a square centimeter and is administered with the press of a thumb. The underside of the patch is lined with 100 solid, conical microneedles made of polymer, sugar, and vaccine that are a fraction of a millimeter long. When the patch is applied, the microneedles press into the upper layers of the skin; they dissolve within a few minutes, releasing the vaccine. The patch can then be discarded.

"Each day, 400 children are killed by measles complications worldwide. With no needles, syringes, sterile water, or sharps disposals needed, the microneedle patch offers great hope of a new tool to reach the world's children faster, even in the most remote areas," says James Goodson, epidemiologist from the CDC's Global Immunization Division. "This advancement would be a major boost in our efforts to eliminate this disease."

MEASLES VIRION

SAVING YOUNG LIVES
Infants and children in developing nations are at high risk of dying from measles complications. The microneedle patch — developed by researchers at Georgia Tech and the U.S. Centers for Disease Control and Prevention — offers great hope of a new tool to reach the world's children faster, in comparison to traditional needle injections (left).

Improving Epilepsy Treatment

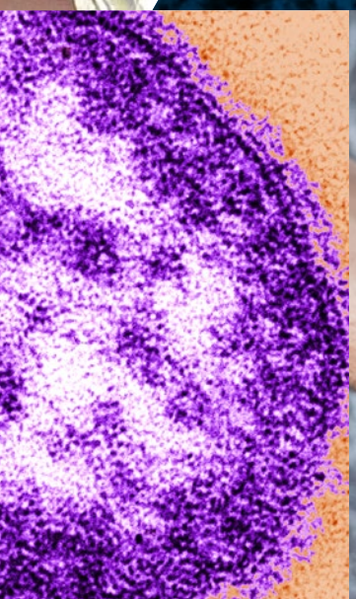
Georgia Tech's Interoperability and Integration Innovation Lab (I3L) and UCB, a global biopharmaceutical company, have teamed up to explore how predictive analytics can help inform treatment decisions for people living with epilepsy.

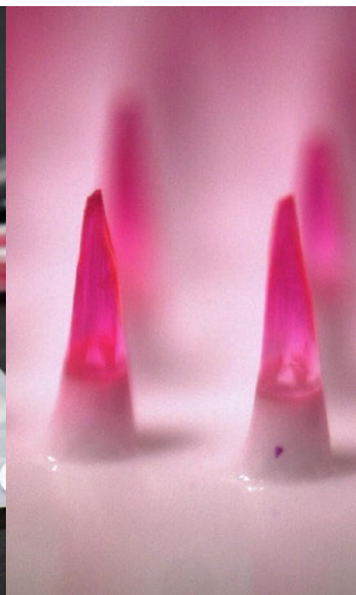
The goal is to develop an interactive system that can convert large amounts of anonymous patient data into real-time insights that health care providers can consult at the point-of-care to inform treatment decisions.

Epilepsy, one of the most common diseases of the central nervous system, affects approximately 65 million people worldwide and more than 2 million people in the United States.

UCB will contribute its expertise as a leader in epilepsy treatment and access to large sets of epilepsy data. I3L will supply access to an extensive collection of health IT resources as well as to collaborators who are experts at connecting critical data to electronic heath records systems.

"The innovative nature of this project reflects UCB and the I3L's shared goal of delivering more patient-centric health solutions in Georgia and beyond," said Mark Braunstein, one of I3L's founders and associate director of Georgia Tech's Health Systems Institute. "We believe that by arming physicians with insights to help them identify the best possible treatment options for people living with epilepsy, we can help drive better patient outcomes and deliver a higher standard of epilepsy care."



HEALTH AND HEALTH CARE

Pollen as a Diagnostic Tool

J. Carson Meredith, professor in the School of Chemical and Biomolecular Engineering (ChBE), is pursuing an innovative global health and development research project titled "Pollen-Based Assays of Intestinal Mucus Water Content and Rheology."

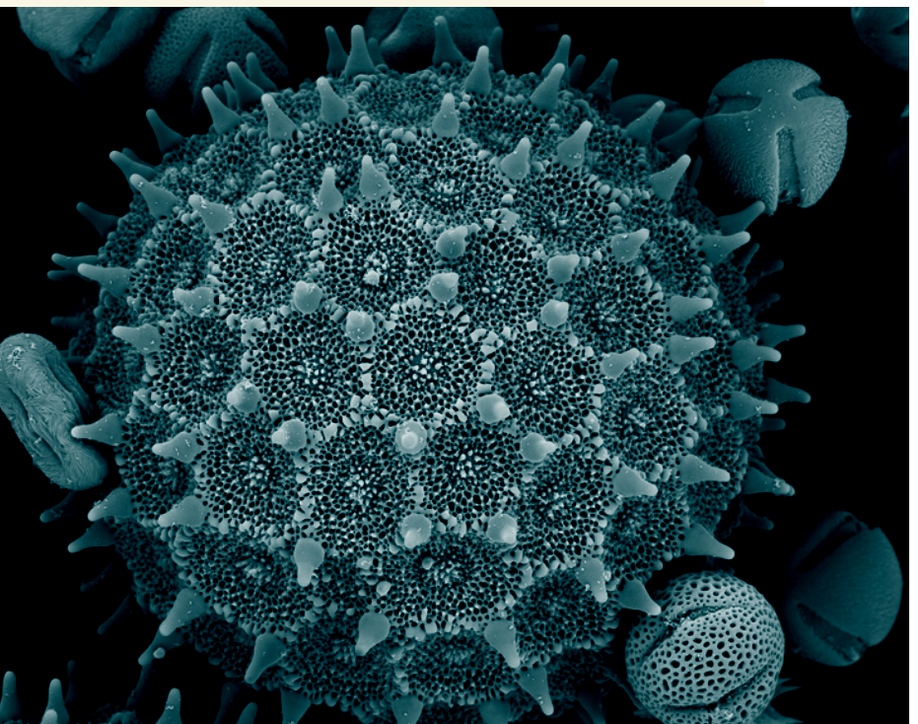
Last fall Meredith's research was named a Grand Challenges Explorations grant recipient; the initiative is funded by the Bill and Melinda Gates Foundation.

Grand Challenges Explorations funds individuals worldwide to explore ideas that can break the mold in how persistent global health and development challenges are solved. Meredith's project is one of more than 60 Grand Challenges Explorations grants announced last fall.

Meredith's work focuses on developing a rapid and low-cost diagnostic for childhood enteric diseases, such as diarrhea. These diseases are a worldwide problem and leading cause of childhood mortality. Treating these diseases is difficult because predicting how the intestinal mucus layer of children will behave under stress is a challenge for researchers; the intestinal tracts of children are quite different from those of adults. The mucus layer is critical to absorbing nutrients. If it's damaged by disease, it won't function as well and can lead to endemic gastrointestinal disease. Meredith has proposed a novel, low-cost method to test the health of the mucus lining in children, by using both natural and synthetic pollen particles.

"Nature provides great sources of complex microparticles that can be adapted for engineering applications," says Meredith. "Pollen grains are covered with unique nanoscale spines that I believe will make them excellent, but inexpensive sensors of mucus function."

Pollen is sticky, edible, can survive in harsh environments, and has a wide variety of spiny appendages, sizes, and shapes. The first step of Meredith's work — in collaboration with ChBE Professor Victor Breedveld — is to characterize how fast different synthetic pollen shells travel through viscous liquids that simulate what's inside the inside of the gut.



STEM EDUCATION

Interdisciplinary research and learning are a hallmark of Georgia Tech, and a top strategic priority. The Institute has received a significant boost in that arena, thanks to The Leona M. and Harry B. Helmsley Charitable Trust.

EDWARD COYLE

The charitable organization awarded a $5 million grant to the Vertically Integrated Projects (VIP) program to enhance science, technology, engineering, and mathematics (STEM) education at Tech. VIP brings together teams of undergraduates with graduate students and faculty to work together on long-term research projects. Under the leadership of Georgia Tech and the co-leadership of the University of Michigan, the Helmsley award will expand VIP to a consortium of other colleges and universities, including those that primarily serve underrepresented, minority, or nontraditional students, as well as members of the prestigious Association of American Universities.

Georgia Tech will be able to expand its own VIP program, whose research teams currently include undergraduates from more than 20 majors. It attracts students of various ages, interests, and experiences, fostering collaboration across multiple disciplines. VIP projects can last a decade or more, and undergraduates may spend up to three years with their project teams.

"For many students, this is the first chance they've had to do something real while they're undergraduates," said Edward Coyle, Arbutus Chair for the Integration of Research and Education at Tech, and VIP's founder and director. After establishing VIP at Purdue University in 2001, Coyle came to Georgia Tech and launched its VIP program through the School of Electrical and Computer Engineering.

MANUFACTURING

In May 2014, the National Institute of Standards and Technology (NIST) awarded the Consortium for Accelerated Innovation and Insertion of Advanced Composites (CAIIAC) a grant to:

- develop an objective, verifiable, and consistent roadmap to identify and validate emerging cross-cutting composite technologies; and
- create a domestic innovation manufacturing ecosystem to accelerate advanced composite products into the market.

The Georgia Tech Manufacturing Institute (GTMI), in collaboration with Advanced Materials Professional Services, Florida State University, and the University of Dayton, created the Consortium. Already, 39 companies and government laboratories representing the aerospace, automotive, energy, and medical device sectors have committed to participating in CAIIAC. More than 60 percent of these partners are small- or medium-sized enterprises that play a critical role in the U.S. supplier network. Starting with an industry-led roadmapping process, the new consortium aims to:

- accelerate innovation and deployment of advanced composites;
- develop broad-based applications for advanced composites; and
- improve U.S. competitiveness and sell advanced composite products globally.

Thanks in large part to the rise of more durable, cost-effective devices, the stage has been set for the emergence of wearable computing for the broader consumer market.

MILITARY AND DEFENSE

A $1.9 million cooperative agreement with the Defense Advanced Research Projects Agency (DARPA) through the Army Research Office is enabling researchers from the Guggenheim School of Aerospace Engineering to launch a multi-tiered project ultimately aimed at supporting military operations in austere environments.

Scientists from Tech's Integrated Product Lifecycle Engineering (IPLE) lab and the Aerospace Systems Design Lab (ASDL) are running a two-year project dubbed CREATE (Collaborative Repository for Engineering and Technology Education).

The goal of the CREATE project is to enable students, hobbyists, and military personnel to understand, diagnose, repair, and adapt high-technology electro-mechanical systems that are often used in isolated or challenging environments. The work is funded by the MENTOR2 program, run out of DARPA's Defense Sciences Office.

"The CREATE team is in a unique position to develop and demonstrate innovative methods and tools," said Daniel Schrage, whose IPLE lab led Georgia Tech's work on the original MENTOR program and will also lead Tech's effort on MENTOR2.

"We can build on and integrate key innovations from previous work and implement new innovations."

Tech researchers are partnering with the University of New Haven to evaluate the project demonstrations, which will use a combination of classroom teaching, camp practicums, unique simulation software, and distance learning to train users in all aspects of electromechanical system design, manufacturing, and support.

COMPUTING

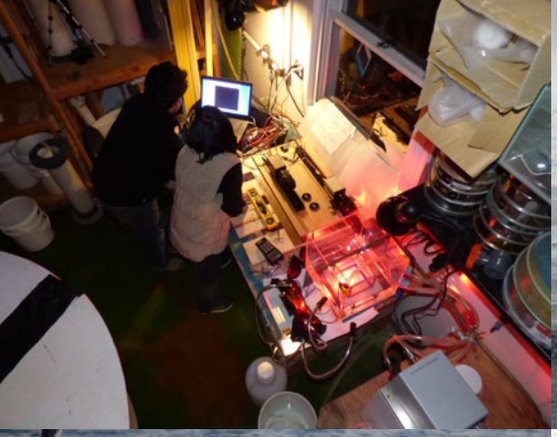
Despite 20 years worth of research on wearable computing, the average consumer does not have access to wearable devices and applications. Historically, the technology has often been expensive, fragile, or both. Consumers also weren't ready to embrace wearable computing.

Now, with the rise of more durable, cost-effective devices, coupled with the recent explosion of mobile devices and head-mounted displays from companies such as Google and Oculus, the stage has been set for the emergence of wearable computing for consumers. There's still more work to be done, though, to make the transition from the research lab into consumers' everyday lives. That's where Georgia Tech comes in.

Tech has taken advantage of the interest in wearable computing by launching the Wearable Computing Center. The Center's goal is to bring together world-class wearable computing researchers for meaningful collaborations.

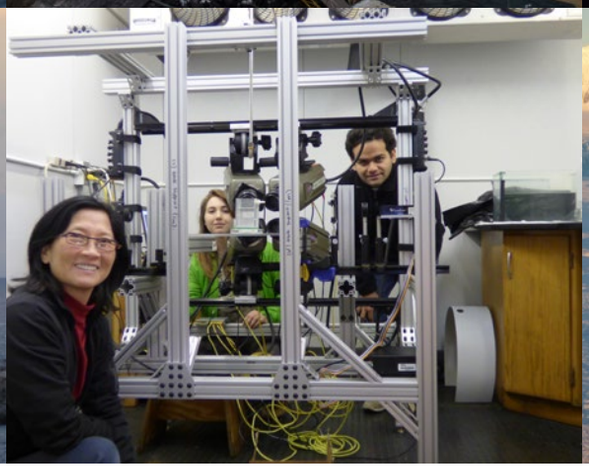
"Our goal is to provide a structure that supports the significant interdisciplinary research that is needed to tackle the grand challenges in wearable computing," said Center Director Maribeth Gandy.

Members also have the opportunity to be on the cutting edge of a new computing paradigm by joining the Industry Partners Program. Members will meet quarterly to discuss topics relevant to the wearable computing industry such as policy concerns, market research, and tech developments.








SCIENCES

Biology Professor Jeannette Yen and her team of scientists conducted experiments in the Antarctic that are possible nowhere else. They spent what little daylight they had searching for tiny organisms in the frigid waters.

Aboard a massive research vessel operated by the National Science Foundation, they cruised past giant icebergs and through rafts of loose ice to Palmer Deep, a location where the water is 2,000 feet deep. From the huge stern A-frame of the ship, they lowered plankton nets into the zero-degree Celsius water and hauled live animals aboard.

"The weather has been good," Yen said. "We've gone out and have been collecting plankton all around."

This was Yen's second polar plunge. She's an ecologist with an engineer's eye. Her team of biologists and engineers hauled each day's catch back to the lab at Palmer Station, which provided no escape from the cold. There, the scientists studied plankton swimming motion with video cameras in a room kept at zero degrees Celsius, to mimic the animals' natural environment.

Plankton are the base of the food chain, but their environment is changing. Around the southern continent, the water temperature is stable at around zero degrees Celsius because of the Antarctic Circumpolar Current. Carbon dioxide, a potent greenhouse gas, easily dissolves in the cold water, acidifying the ocean. The acidifying oceans might be triggering a destructive chain of events underwater that could harm the food web around the world.

That's why Yen and her team came here, in search of a tiny organism that could be a canary in the coal mine of climate change.

Working with Biology Professor Jeannette Yen (second from right) in Antarctica were (left to right) team members Rebecca Wolf, Deepak Adhikari, and Rajat Mittal. Yen's research could provide invaluable information on the status of the global food web.

ARCHITECTURE

In collaboration with Shanghai's Tongji University, students in the dual Urban Design Studio spent a semester conceptualizing a new framework for eco-city design in the context of Chongming Island, Shanghai. The design groups from Georgia Tech and Tongji University traveled to the largely rural island at the mouth of the Yangtze River to conduct field studies with the locals and identify key challenges. After their visit, students and faculty from both universities took part in a weeklong workshop focused on creating a world-class development plan for the southeastern site of the island that will be environmentally sustainable as well as culturally responsive.

Chongming Island is situated on the coast of Shanghai and represents a source of environmental capital as well as food security. As China confronts explosive population growth as well as aging urban infrastructure, Chongming Island has been lauded as having the potential to transcend its rural roots and become an ecologically sensitive urban oasis.

While in China, Tech students and professors proposed design frameworks supported by research and fieldwork conducted in the prior weeks. The plans elucidated upon concepts focusing on renewable energy, efficient waterway design, and sustainable agriculture in the context of incremental development. The design ideas created through the Dual Urban Design Studio for Chongming Island can be used to inform a new discourse on eco-city design in the context of developing areas.

Students and faculty from Georgia Tech's Urban Design Studio course discuss the eco-island concept as part of their studies in Shanghai, China.

Tech students and faculty conducted a site walk and field survey at a wind energy farm on Chongming Island, just off the coast of Shanghai.

HUMANITIES

While the nationwide push for STEM education has caused hand-wringing and eraser-gnawing in some English departments, Tech's School of Literature, Media, and Communication (LMC) has long worked within this reality, as reflected in its first-ever book, *Humanistic Perspectives in a Technological World*.

RICHARD UTZ

Filled with photos and essays by LMC faculty as well as statements from academics and administrators across campus, the 140-page hardbound volume was the brainchild of LMC Department Chair Richard Utz.

"You will not find a single institution that has something like this, where every tenure-line faculty member, plus Brittain fellows, have contributed 1,000-word essays," Utz points out. "You know why? Because people will say no!"

As an external candidate for department chair a few years back, Utz searched the Internet for "LMC," and the primary result was "large magellanic cloud."

"It's a nebula with a lot of star activity," he explained. "And that seemed to describe what LMC is — a lot of great, fantastic individual researchers and groups, but not necessarily a unit that recognizes that it's because we're in the same place that many of our activities are possible. So how do you get people to think about what everybody else is doing? By creating a volume that 'binds' everybody together."

His hope is that the book will spark more conversations and collaborations among faculty. He sees it as a "calling card" that will give other disciplines, alumni, and prospective students more awareness and appreciation for how LMC contributes to the Tech education and experience.

FOSTERING SUSTAINABLE GROWTH

When Tech faculty and students produce phenomenal results in the research lab, they apply those findings to create the next innovative startup — a process that yields high-end, sustainable economic growth.

TECHNOLOGY SQUARE/ MIDTOWN Since its launch a dozen years ago, Technology Square in Midtown has become a globally recognized magnet for innovative startups and established brands alike. Corporate research and innovation centers — attracted to Tech Square in large part by Tech students — strengthen the overall innovation ecosystem that is thriving there.

Coca-Cola Enterprises

One of the world's largest independent bottlers, Coca-Cola Enterprises (CCE), opened a 5,000-square-foot innovation and development center in Tech Square's Centergy Building in March 2015.

The new center focuses on emerging technologies and big data products for major retail customers. These innovations will help customers improve efficiencies, reduce costs, and drive sales. CCE is also developing business apps to help retailers with product ordering, supply chain, and consumer insights.

In August, CCE agreed to a merger with Coca-Cola Iberian Partners and Germany's Coca-Cola Erfrischungsgetränke AG, creating a company spanning 13 countries with revenue of more than $12 billion.

FROM LEFT: COCA-COLA ENTERPRISES, THE HOME DEPOT.

The Home Depot

An icon of corporate America, Home Depot joined the Tech Square family last year with the opening of its first-of-its-kind, university-based research and development center. The Home Depot Technology Center has created an innovation partnership between Georgia Tech and the world's largest home improvement retailer. That partnership lets Atlanta-based Home Depot tap into Tech's research expertise, and, more critically, the deep talent pool of students, allowing Home Depot and Tech students to collaborate on new ideas and strategic initiatives for the company.

"I cannot tell you what a great opportunity this is for us to be working with some of the best young minds here at Georgia Tech," said Matt Carey, Home Depot's chief information officer. "Georgia Tech provides us with a unique opportunity to get fresh, innovative ideas and forward, out-of-the-box thinking from students who will be shaping and developing our world of the future."

For students such as Preston Turner, a third-year computer science major, the Home Depot Technology Center provides an opportunity to foster innovative ideas. It also gives him a chance to take an entrepreneurial approach in a real-world setting by working with a Fortune 50 company.

"Home Depot is smart enough to realize that we have one of the best colleges in the nation sitting right here, full of a ton of bright minds getting one of the best educations out there," says Turner. "Having us here and paying us for the work that we do is really driving new technologies at Home Depot. There are so many innovative things at Georgia Tech — we can take that knowledge and bring it here to the Technology Center."

Southern Company

Announcing plans to come to Tech Square by the end of 2015 was the Energy Innovation Center, established by the Southern Company to develop better, more reliable, and more efficient ways to increase value for customers through products and services.

"The Energy Innovation Center is a concrete example of Southern Company's decades-long commitment to harnessing the power of innovation for the benefit of the families our utilities serve," said Southern Company Chairman, President, and CEO Thomas Fanning. "We look forward to collaborating with Georgia Tech and other strategic partners to develop the next generation of energy technologies and customer-focused programs."

The Center aims to become a place where ideas, innovation, and investment intersect to develop a better customer experience.

"As the most recent addition, Southern Company's presence in Tech Square will continue the growing momentum of the Southeast's premier innovation ecosystem," said President G.P. "Bud" Peterson. "We look forward to increased opportunities to partner as they pursue customer-focused energy innovation."

Southern Company, Home Depot, and CCE join a number of corporate giants that have created innovation and research centers in Tech Square, including AT&T Mobility, Panasonic Automotive Systems Co., NCR, and ThyssenKrupp Elevator Americas.

Tech Square Expansion

As Tech Square's profile has soared in recent years, Georgia Tech's leaders have laid the groundwork for the site's future growth. A major step in this direction was taken in spring 2015 with the announcement that Portman Holdings had been selected as the project developer for the Tech Square expansion — between Spring and West Peachtree Streets near the Scheller College of Business.

"This expansion is one of the most exciting developments since the opening of Technology Square more than a decade ago and will provide extended options for those looking to be a part of Georgia Tech's innovation ecosystem," said Executive Vice President for Administration and Finance Steven G. Swant. "We are pleased to take the next step in providing an interdisciplinary collaborative environment that will ultimately magnify Technology Square's positive impact in the Midtown Atlanta area and the state of Georgia."

"We are thrilled Portman has been selected to work with Georgia Tech on a new kind of workplace — a 'Class T' office with adjoining data center and vibrant public space," said Ambrish Baisiwala, CEO of Portman Holdings. "This building will be special — bringing people together in a mixed-use community of innovation, education, and intelligent exchange that represents a paradigm shift in office development."

Anchored by the planned High Performance Computing Center, the development will be a transformative project providing a sustainable platform for expanding interdisciplinary research, collaboration, and co-location with industry partners, while also supporting Georgia Tech's academic and research programs in advanced analytics and computing.

Marketing Midtown

Efforts are underway to develop Tech Square's larger neighborhood — Midtown Atlanta — as a regional tech hub.

"Midtown is now the innovation center of Atlanta," says Joseph Bankoff, the new chairman of the Midtown Alliance and chair of the Sam Nunn School of International Affairs in the Ivan Allen College of Liberal Arts.

Bankoff's perspective on the Midtown "innovation zone" draws upon his experience in the arts, business, law, technology, and his role in higher education.

"We are building strong connections among technology research, education, and entrepreneurial enterprises," says Bankoff. "Anchor businesses and infrastructure are in place. Our efforts will be to further develop those synergies with a goal of fully realizing Midtown as a hub for a work-live-play technology community."

Bankoff joined the Midtown Alliance in 2006 while serving as president and CEO of the Woodruff Arts Center. Over the past two years, he has chaired Midtown Alliance's Innovation Council, and he also serves on the group's executive committee.

The Midtown Alliance has been working with Georgia Tech on several innovation projects under contract with Tech's Institute for People and Technology.

"Georgia Tech is now a magnet attracting talent and both new and established technology firms to Midtown," Bankoff says. "Working with Georgia Tech and its planned High Performance Computing Center, we have the opportunity to make Midtown Atlanta a national tech innovation powerhouse."

Automating Apparel Manufacturing

The support provided by grant-making organizations is pivotal to Tech's economic development efforts, as evidenced by a $2 million grant from Walmart to underwrite the "CRAFTed with Pride in the USA" project. The grant was made in the form of a Walmart U.S. Manufacturing Innovation Fund from Walmart, the Walmart Foundation, and the U.S. Conference of Mayors.

Researchers from Georgia Tech's Center for Research in Apparel Fabrication Technologies (CRAFT) are collaborating on an automated manufacturing process to create apparel, from blue jeans to T-shirts, without a person sewing. The innovative technology plan is to use robotics, high-speed machine vision systems, and materials-handling machines to create garments of a higher quality and at a lower cost than what is currently realized through offshore manufacturing.

This innovative process automates the refined skills of people who sew — visual quality control, handling of material, and sewing. The technology in the team's proposal exists as a laboratory prototype that can automatically complete a basic set of sewing functions with a high degree of accuracy. Ultimately, this kind of technology will give the American apparel industry a much-needed boost.

"The Walmart Foundation's U.S. Manufacturing Innovation Fund grant gives us the unique opportunity to transform the labor-intensive apparel manufacturing process into a cost-effective, automated, and high-tech operation," said Professor Sundaresan Jayaraman, the principal investigator on the project. "In doing so, we will fundamentally alter the landscape of today's apparel industry by neutralizing the cost advantage of low-wage countries and triggering a 'lost' industry's return to America. Bringing this research to life and commercializing it will open new high-tech jobs to manufacture the robots and other equipment needed to make the system work."

Jay Williams (right), assistant secretary of commerce for economic development, toured and met with several startup companies incubating at Georgia Tech's Advanced Technology Development Center. Williams also announced a $500,000 i6 Challenge grant to Georgia Tech.

Investing In Georgia Entrepreneurs

The U.S. Department of Commerce awarded Georgia Tech a $500,000 i6 Challenge grant to support a sweeping innovation and entrepreneurship initiative in Athens, Augusta, and downtown Atlanta.

As part of the award announcement in March 2015, Jay Williams, assistant secretary of commerce for economic development, visited the Enterprise Innovation Institute (EI²), Tech's chief economic development and business outreach unit. Williams toured and met with several startup companies incubating at the Advanced Technology Development Center, one of EI²'s economic development programs.

The i6 Challenge is a national competition that seeks to fund small but targeted high-impact initiatives that support startup creation, innovation, and commercialization. The award, which Georgia Tech is matching with an additional $517,787, will be used to provide education, support, and programs to develop the entrepreneurial community in Georgia in the three communities. It will be administered through EI².

Specifically, the award will further the development of startup ecosystems in Athens and Augusta — both located in economically distressed counties — and serve as a catalyst for the growth of two university-anchored startup ecosystems in downtown Atlanta.

"What's exciting about this grant is that it really is about partnerships — the cross-community and multi-university partnerships we have in Atlanta, Athens, and Augusta," says EI² Vice President Stephen Fleming.

Worldpay Gift Launches Financial Technology Accelerator at ATDC

Worldpay expanded its commitment to accelerating payments technology innovation with a $1 million gift and mentorship commitment to Georgia Tech's Advanced Technology Development Center (ATDC).

Worldpay is fully funding a new Financial Technology (FinTech) accelerator at ATDC for the next three years, which includes hiring a FinTech expert to serve as an entrepreneur-in-residence to mentor startups. Worldpay executives are also mentoring entrepreneurs at the Center, providing both payments expertise and Worldpay's global resources to support companies within the new program.

"As the leaders in modern money, Worldpay is creating new payments experiences for software and applications that business owners use to run their businesses smarter across all channels," said Worldpay U.S. President and CEO Tony Catalfano. "To sustain our competitive advantage, we must continue to innovate and attract top talent, both key drivers behind this groundbreaking partnership."

"We are always focused on bringing businesses to our state, but we also want to encourage the next generation of entrepreneurs to build their businesses right here in Georgia," said Lieutenant Governor Casey Cagle. "This is a groundbreaking public-private partnership that will create jobs and help secure Georgia's place as the country's leader in financial technology for another generation. I congratulate Georgia Tech and Worldpay on this collaboration and look forward to seeing the results."

Supporting the Automotive Industry

The Georgia Manufacturing Extension Partnership (GaMEP) has received $250,000 in federal funds to pilot a regional business-to-business network project in the automobile supplier and technology sectors. The grant for the project is part of $2.5 million in awards the U.S. Commerce Department's National Institute of Standards and Technology (NIST) has made across the country.

Each pilot is structured to help create networks of buyers and sellers of technologies, products, and services. The main goals are to have such networks support small- and medium-sized businesses and determine whether those pilots can be expanded nationally.

"One of NIST-MEP's goals is to improve the productivity of our domestic supply chains," said Acting Under Secretary of Commerce for Standards and Technology and Acting NIST Director Willie May. "These projects will demonstrate a variety of innovative approaches to doing that by connecting small firms with larger corporations."

GaMEP, a federally and state-funded unit of the Enterprise Innovation Institute, works extensively with businesses across the state to reduce costs, increase productivity and revenue, incorporate best technological practices, and save or create jobs.

EXPANDING OUR

GLOBAL FOOTPRINT

Creating the next world-changing idea or product can happen literally anywhere. That's why global engagement is high on Georgia Tech's list of strategic priorities.

Ensuring Clean Air and Water

While spring break consisted of a well-deserved hiatus from classes for most students, one group boarded a plane for South America to apply their research in remote communities in Bolivia.

The students in CEE 4803 — Environmental Technology in the Developing World — spent the semester preparing for the 10-day trip. They evaluated different methods for testing air and water quality, but they did so outside the comfort of their usual lab and equipment.

"It's a really powerful and humbling experience to encounter your own limits and the limits of what is possible under certain constraints," says Joe Brown, assistant professor in the School of Civil and Environmental Engineering, who teaches the course.

Before departing, the class worked to determine what kind of equipment they would use, how they would take samples, where to send them, and how to be as prepared as possible. About six days of the trip were spent gathering data to analyze back in Atlanta, but an equally important goal was for students to learn how the technical aspects of their work relate to cultural, social, and economic aspects of the community where they are working.

More than 120 study abroad programs on six continents are available to Georgia Tech students. Each year, more than 1,500 Tech students participate in a study abroad program.

HANDS-ON LEARNING On their spring break trip to Bolivia, students in the CEE 4803 course — Environmental Technology in the Developing World — evaluated different methods for testing air and water quality in the South American nation. Among the group were (from left) Vernon Gentry, Aaron Bivins, Taryn Heidl, Melissa Meyer, and Brandie Banner. Conducting the tests outside the comfort of their Georgia Tech lab and equipment tested the students' ability to perform in a challenging environment.

Celebrating Social Courage

Speaking truth to power in pursuit of social justice and equality is often dangerous work. A case in point is Beatrice Mtetwa, an African lawyer who has devoted herself to human rights, social justice, and gender equality for more than 20 years.

This distinguished record of courageous service led Georgia Tech to award Mtetwa its fourth annual Ivan Allen Jr. Prize for Social Courage. She is the first woman to receive the $100,000 prize.

Mtetwa grew up in the southern African nation of Swaziland with no electricity or running water. She became the first in her extended family to attend high school and went on to study law at the University of Botswana and Swaziland.

After pursuing a career as a government prosecutor, she became disillusioned by selective justice, so she moved into private practice, where she hoped to be able to conduct human rights work without political interference. Still, she has endured threats and assaults for defending those who suffer at the hands of government.

"She permits us to connect, in a very dramatic way, the legacy of Ivan Allen Jr., for whom the award is named, to courageous social and ethical action as a global need and commitment," says Jacqueline Royster, dean of the Ivan Allen College of Liberal Arts and a member of the award's nominating committee. "As the official trustees of the Allen legacy, we are very pleased to make this local connection to such an important global issue."

Attorney Beatrice Mtetwa — who has devoted her career to human rights, social justice, and gender equality in Africa — is the first female recipient of the Ivan Allen Jr. Prize for Social Courage. The prize includes a $100,000 award.

"We want this award to be very clear in honoring social courage, not just extraordinary leadership," says Joseph Bankoff, chair of the Sam Nunn School of International Affairs and one of the nominating committee members. "Beatrice has the kind of courage the mayor shared on issues of critical importance to the society she lives in, but also to the rest of the world."

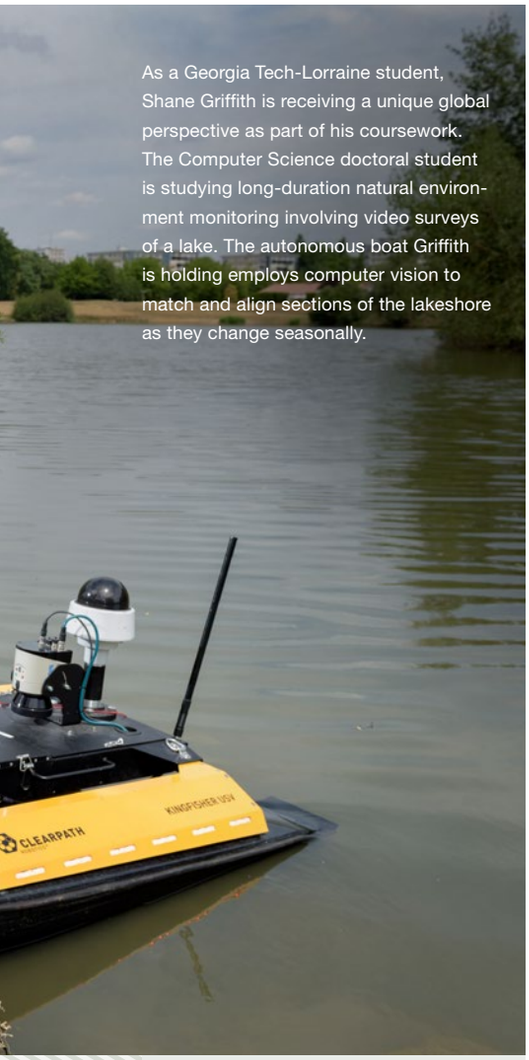
Developing Global Leaders

Eleven Georgia Tech students and two Office of International Education advisors attended the Georgia International Leadership Conference (GILC) to refine their leadership and presentation skills, learn about global competency, and network with students from around the state of Georgia.

GILC brought together nearly 200 students representing 20 different universities and colleges from around the state. Upon arrival, students participated in a service project at the Oliver N. Worley Environmental Educational Center. The next couple of days were spent in student-run presentations and activities aimed at global competency.

The conference is student-led, and students present on a myriad of topics related to leadership in a global world, intercultural communication and relationships, challenging stereotypes, and success within student organizations. The conference also gives students a chance to experience cultural simulations to deepen their understanding of what it means to be a global citizen and traveler.

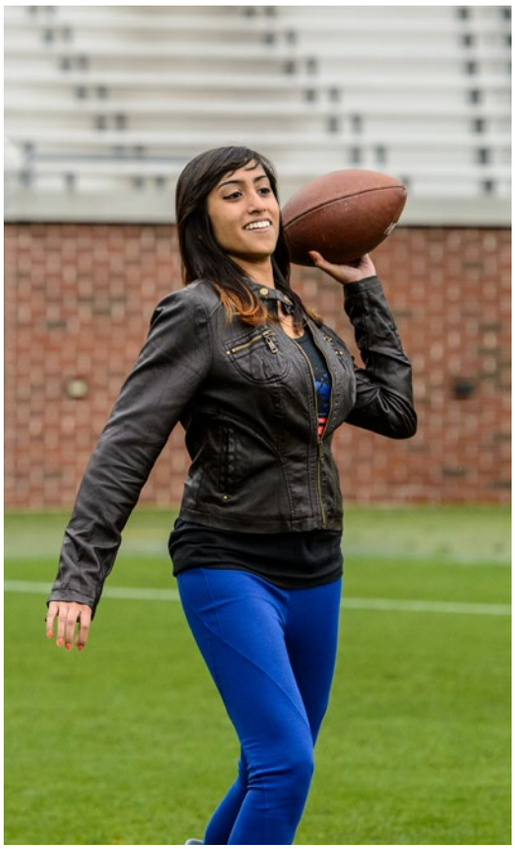
A total of six Georgia Tech students presented on topics that included making friends while traveling, finding their identity through travel, how Chinese characters are built, and censorship in a digital world; an international student spoke about making friends in the U.S. The Tech delegation was the only student group to run a cultural simulation at the conference. Three Tech students served as peer leaders and took the responsibility of ensuring that the conference ran successfully.



As a Georgia Tech-Lorraine student, Shane Griffith is receiving a unique global perspective as part of his coursework. The Computer Science doctoral student is studying long-duration natural environment monitoring involving video surveys of a lake. The autonomous boat Griffith is holding employs computer vision to match and align sections of the lakeshore as they change seasonally.

French Campus Marks 25th Anniversary

Twenty-five years after its founding, Georgia Tech-Lorraine in Metz, France, continues to serve as a vital element of Georgia Tech's research and education enterprise. More than 3,000 undergraduate, master's, and doctoral students in Electrical and Computer Engineering, Mechanical Engineering, and Computer Science have spent a semester or more on the Metz campus, enriching their education with a global perspective. The Institute's first international campus, Georgia Tech-Lorraine is home to a strong sponsored research program through the Unité Mixte Internationale, a joint laboratory between Georgia Tech and the French Centre National de la Recherche Scientifique.



Siyu Yang (top photo), a graduate student in Electrical and Computer Engineering, and Viju Ramesh (above), an undergraduate student in Chemical and Biomolecular Engineering, learn the finer points of American football at the SGA-sponsored International Football Clinic.

International Football Clinic

For the third consecutive year, Georgia Tech Football partnered with the Student Government Association to host an International Football Clinic to shed light on a sport unfamiliar to many students who have traveled from overseas to study on campus.

"Hopefully we'll have some fun and you'll get a better idea of football," head coach Paul Johnson told the students.

After getting a quick rundown of the rules in the same seats where Tech players watch game films, the students from all over the world stepped into the locker room to try on the pads and helmets the players wear. Many found the helmets a little bit snug and had trouble squeezing their heads in. Almost all of them had their smartphones out snapping photos.

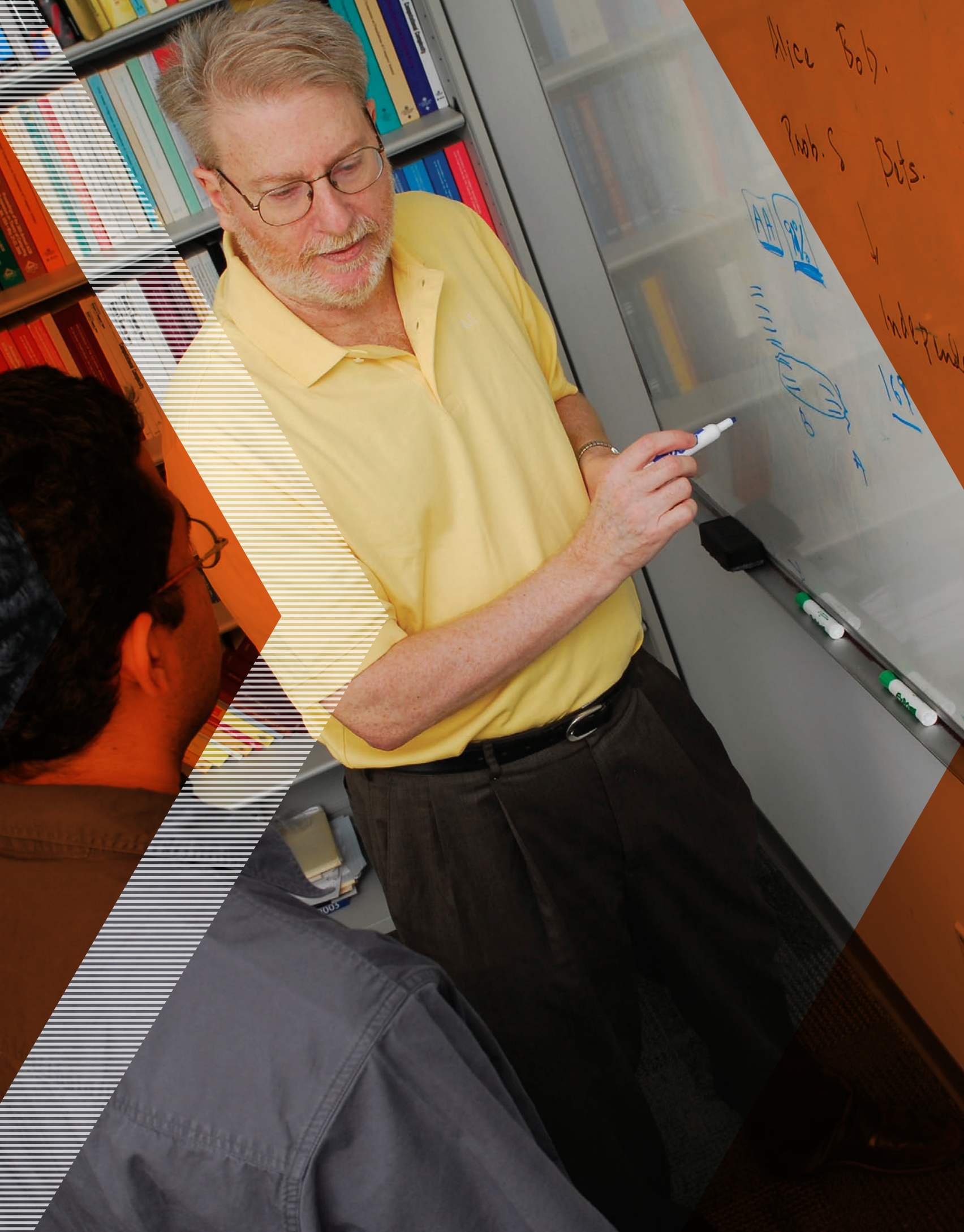
Although no one was in the stands, the Ramblin' Wreck was waiting in the gallows of Bobby Dodd Stadium to lead out the global cadre just as if they were the Yellow Jackets charging onto the field for a home game.

Awaiting the students, the players themselves were ready to run a few drills for some hands-on tips about American football.

"I like soccer; for me this is very different," says Juan David, a student from Colombia.

New Zealander Philip Ngo was more familiar with rugby. That might explain how he sent a football through the uprights on his first try. Most of the other international students were not quite as successful, but they were having a great time trying.

"The touchdown celebrations and then everyone going wild, that's just a lot of fun," says Ngo.


Alice Bob.
Push. Pull.

FACULTY/ STAFF

ACHIEVEMENTS AND CONTRIBUTIONS

Georgia Tech's faculty and staff have earned a national and global reputation for visionary thinking that produces relevant results. They are focused on creating the next solution that will improve human life in a meaningful way — an approach validated time and again by the prestigious recognition they receive.

RICHARD LIPTON

FACULTY

Computer Science

Richard Lipton, professor and Frederick G. Storey Chair in Computing in the School of Computer Science, added a second major award to his credentials when he was named the winner of the 2014 Knuth Prize for his contributions to the foundations of computer science.

Lipton was cited for "inventing new computer science and mathematical techniques to tackle foundational and practical problems in a wide range of areas in graph algorithms, computation, communication, program testing, and DNA computing."

The Knuth Prize is jointly presented by the Association for Computing Machinery's Special Interest Group on Algorithms and Computation Theory and the IEEE Computer Society Technical Committee on the Mathematical Foundations of Computing.

Lipton was previously elected to the 2014 class of the American Academy of Arts and Sciences. With the Knuth Prize, he joins a short list of extraordinary computer scientists.

"The Knuth Prize means a great deal," says Lipton. "It is very exciting to be recognized by your peers for work that spans over 40 years. I feel very special and thankful to have been selected."

LEADERSHIP IN COMPUTING

Beth Mynatt, executive director of the Institute for People and Technology, was named vice chair of the Computing Community Consortium. The organization was established by the Computing Research Association and National Science Foundation and helps put future computing research into motion.

National Academy of Engineering

DEEPAK DIVAN

VIGOR YANG

AJIT YOGANATHAN

College of Engineering faculty members Deepak Divan, Vigor Yang, and Ajit Yoganathan were elected to the National Academy of Engineering (NAE).

Election to NAE is among the highest professional distinctions accorded to an engineer. Academy membership honors those who have made outstanding contributions to "engineering research, practice, or education, including, where appropriate, significant contributions to the engineering literature," and to the "pioneering of new and developing fields of technology, making major advancements in traditional fields of engineering, or developing/implementing innovative approaches to engineering education."

"Deepak, Vigor, and Ajit have made exceptional contributions to their fields and to Georgia Tech," says Gary May, dean and Southern Company Chair in the College of Engineering. "This is a tremendous honor for these outstanding and deserving researchers. We are honored to have them as part of our engineering faculty."

Materials Science and Engineering

Rosario Gerhardt, professor in the School of Materials Science and Engineering (MSE), was named Georgia Tech's new Goizueta Foundation Faculty Chair.

The Goizueta chair position is awarded to outstanding tenured faculty who have demonstrated excellence in research and teaching, as well as leadership in the campus Hispanic community and beyond.

"It's exciting to me to be able to share my story with people," says Gerhardt, who was born in Peru and had the experience of being an international student when she came to the U.S. for college. She studied and worked at Carroll College, Columbia University, and Rutgers University before coming to Tech as an associate professor in 1991.

In the interim years, Gerhardt was granted tenure and later promoted to full professor in MSE. In her academic work, she has published more than 200 papers, garnered more than $5 million in research funding, and has personally advised and mentored more than 100 individuals at all levels. Her scientific research has applications in areas such as electronics, energy, transportation, and security.

ROSARIO GERHARDT

TECH'S LED PIONEER Russell Dupuis, professor and Steve W. Chaddick Endowed Chair in the School of Electrical and Computer Engineering, earned a Draper Prize for LED pioneers — generally regarded as the Nobel Prize of engineering. Dupuis invented the process that is the basis of virtually all production of high-brightness LEDs, laser diodes, solar cells, and high-speed optoelectronic (light controlling) devices.

The Vampire in Europe: A Critical Edition is the latest work of of Brittain Fellow John Edgar Browning, author of nearly a dozen books.

College of Sciences

Chris Reinhard, an assistant professor in the School of Earth and Atmospheric Sciences, was among 126 scientists in North America awarded a 2015 Sloan Research Fellowship, a two-year grant given to early-career scholars to support their pursuit of scientific knowledge.

Reinhard's research seeks to understand the ways in which biological metabolism and the chemistry of Earth's oceans and atmosphere are coupled and shape one another.

He is currently working with the NASA Astrobiology Institute, using the lessons learned from reconstructing the history of ocean-atmosphere chemistry to inform the search for life within and beyond the solar system.

"The work I do thrives on collaboration; it is typically interdisciplinary and broad in scope," says Reinhard. "I've been exceptionally fortunate to have the chance to work with and learn from some incredible people in my young career."

Liberal Arts

John Edgar Browning, a Marion L. Brittain Postdoctoral Fellow in the School of Literature, Media, and Communication, is an internationally recognized vampire and horror scholar who has published nearly a dozen books. His latest work is *The Vampire in Europe: A Critical Edition*, published in 2014.

Last year, Browning taught "Fashioning Monsters, Preserving Normalcy," which examined the way we construct monsters and otherness in literature, film, and society. For example, his class discussed why Leatherface from "Texas Chainsaw Massacre" became more horrifying after putting on lipstick.

"Monsters tell us a lot about society," says Browning. "In a way, monsters are just like politicians. They show us who is powerful, who should have power, and who is powerless."

Of all the monsters out there, Dracula captured Browning's fascination. He watched the 1979 movie many times. But it was the 1992 version directed by Francis Ford Coppola that made a lasting impact.

"I stopped thinking of Dracula as this fictional thing," says Browning. "He was *Vlad* Dracula, a person who had a real history. The movie turned some switch on, and I really honed in on vampires and Dracula."

Chris Reinhard in the School of Earth and Atmospheric Sciences, hard at work sampling a fossilized piece of 1.5-billion-year-old ocean floor in northern China. Reinhard worked with a team whose members came from the Chinese Academy of Sciences, Yale University, and the University of California-Riverside.

Inaugural Staff Council

Fall 2014 saw a milestone occurrence for Georgia Tech staff: the election of the Institute's first Staff Council.

The Staff Council's primary mission is to act as an advisory group to the Institute's executive and senior leadership and provide insight on how decisions regarding policies, procedures, and investments affect this segment of the campus community.

The Council, which meets with executive leadership at regular intervals, is intended to serve as a conduit for staff perspectives that are broadly representative of the greater staff population.

"When I first came to Georgia Tech in 2009, one of the first things I noticed is that we didn't have a group in place to share insight and advice on decisions that affected our staff," says President G.P. "Bud" Peterson. "Our new Staff Council will enable our staff to have a formal channel of communication with Georgia Tech's senior leadership, just like our faculty and students already have. I would like to thank the planning committee and the members of the interim Staff Council for helping to make this a reality."

Staff Council members are Rick Clark (chair), Debbie Dorsey (vice chair), Meredith Schnepp (secretary), Andrea Be, Jeffery Bridges, LaJauna Ellis, Frank Lamia, Alex Gutierrez, Bill Halabi, Leslie Hall, Stephen Holbrook, Tommy Little, Garry Lockerman, Deborah Miller, Melissa Moore, Gerri Naramore, Dwayne Palmer, Laura Pusateri, Christie Stewart, and Craig Womack.

Homeless Student Liaison

For students who find themselves homeless at some point during college, or for those who don't have a home to go to when they leave campus, Tech now has someone to help.

Dana Hartley, senior academic professional and undergraduate coordinator in the School of Earth and Atmospheric Sciences, is also Tech's liaison for foster and homeless support. Her new designation comes as part of an effort by the University System of Georgia to have more students finish college and earn degrees.

"There's been a large realization in recent years that there are simple things we can do to help homeless students and those who were formerly in foster care in our community," says Hartley. "These students are some of the most disconnected, and one of the keys to helping them is the ability to communicate between the Department of Human Services and universities."

Hartley got involved with foster care issues a few years back after reading an article by Tech alumnus Sam Bracken, who was homeless as a teen. Hartley realized after reading the article that she could help students who were formerly in foster care once they got to college. She also works with FirstGen, Tech's student organization for students who are the first in their family to attend college.

Service Excellence

Several Tech staff and faculty members were among the finalists for the 2014 University System of Georgia (USG) Chancellor's Annual Service Excellence Awards.

The Westside Communities Alliance Executive Leadership Team (Mackenzie Madden, Chris Burke, Jacqueline Royster, and Sheri Davis-Faulkner), Vice President of Campus Services Paul Strouts, and Physics Professor Michael Schatz were selected from nearly 300 nominees at all 30 USG institutions.

The awards are meant to recognize and reward employees for high levels of performance, highlight service projects and process improvements, and honor commitment to customer service excellence.

Members of the Westside Communities Alliance Executive Leadership Team (from left, Jacqueline Royster, Sheri Davis-Faulkner, Mackenzie Madden, and Chris Burke) were finalists for the 2014 University System of Georgia Chancellor's Annual Service Excellence Awards.

FOSTERING DIVERSITY Cheryl Cofield, director of diversity management in the Office of Human Resources, was named one of *Diversity Journal*'s Women Worth Watching for 2015. The publication acknowledged women for their passion, potential, and positive influence both inside and outside the workplace.

WOMEN IN TECHNOLOGY Leanne West, chief engineer of pediatric technologies at the Georgia Tech Research Institute, was named Woman of the Year by Georgia Women in Technology. The award honors Georgia's top female leaders in science, technology, engineering, and mathematics and the impacts they make on their communities.West has been instrumental in managing the relationship between Georgia Tech and Children's Healthcare of Atlanta, coordinating research activities across campus.

APS SCHOLARS
President G.P. "Bud" Peterson joined students, faculty, and administrators from Atlanta Public Schools in announcing the APS Scholars program, which covers tuition for APS high school valedictorians and salutatorians.

SUPPORTING K-12 STUDENTS AND SCHOOLS

Atlanta Public Schools

Georgia Tech has initiated a program offering automatic acceptance and four-year in-state tuition scholarships to all Atlanta Public Schools (APS) valedictorians and salutatorians.

President G.P. "Bud" Peterson and Atlanta Public Schools Superintendent Meria Carstarphen announced the new program at Booker T. Washington High School. The initiative was designed to increase exposure and access to Georgia Tech for Atlanta Public Schools' most prepared students.

To become an APS Scholar, students must be named either the valedictorian or salutatorian of their high school. Students must also have successfully completed the prerequisite coursework and admission process for entrance into Georgia Tech. The inaugural group of APS Scholars began classes this past summer.

"Georgia Tech is committed to the Atlanta community, and we are pleased to partner with Atlanta Public Schools to not only offer admission to these deserving young people, but also to provide resources they need to succeed," says Peterson.

Georgia Tech's motto is "Progress and Service," and the Institute vigorously embraces these ideals. From preparing K-12 students for college and career success to working with our campus neighbors to provide an attractive, sustainable, and secure environment, the Institute is committed to having an enduring, positive impact.

COMMUNITY

Young Guru, Jay-Z's audio engineer, visited Lanier High School in Sugar Hill, Georgia, with Professor Jason Freeman to work with students on the EarSketch program, which teaches coding through music.

Combining Arts and Computer Science

A four-year, $3 million grant from the National Science Foundation (NSF) will expand an innovative approach to computer science education in high schools across Georgia. The grant extends NSF funding of EarSketch, a project that was established in 2011 by researchers in Tech's College of Architecture and the Ivan Allen College of Liberal Arts. EarSketch uses musical remixes to introduce high school students — especially minorities and young women — to the world of computer programming.

EarSketch has already been used in K-12 pilot studies (including two Georgia high schools, summer camps in Georgia and other states, and Liberia) within the past year. However, the new NSF grant will allow researchers to expand EarSketch to 30 Georgia high schools by creating a web-based version of the program.

"We believe that incorporating EarSketch into high school computer science programs will increase and broaden student participation and engagement in the field throughout the state," says Jason Freeman, associate professor in the School of Music and principal investigator on the grant.

The NSF award is the largest grant ever associated with the Institute's Center for Music Technology and School of Literature, Media, and Communication (LMC). Freeman is co-leading the EarSketch effort with Brian Magerko, an LMC associate professor of digital media.

Problem-Based Learning

Krissy Jeffares, Erika Loupee, and Emilee Roberts are not new to the world of problem-based learning — or "PBL" as they call it. In fact, this teaching model is standard operating procedure in their Georgia Tech classes.

In the summer of 2014, though, the three biomedical engineering students found themselves in a PBL puzzle as part of both the problem and the solution. Interning at Centennial Academy, they were brought in to run a test class with nine rising sixth-graders who used PBL in place of a more traditional teaching format.

The school, which is transitioning from Centennial Place Elementary to a K-8 charter school, is leaving behind some of the restrictions of public school operation and hoping to incorporate elements of problem-based learning into its pedagogy in all grade levels.

"We wanted to see what we could learn from the kids and bring to the teachers," says Roberts. "It also helped the students learn about PBL and how it works. They'll be kind of like ambassadors to the other students this year."

The three enthusiastic women — all former Tech cheerleaders — spent the first half of the summer teaching the subject of earth science and used the remaining weeks to gather and analyze data, then put together presentations and recommendations for Centennial's faculty.

New Students Learn Service Aspect of Tech Mission

During the summer, incoming students and their families bring donations with them to FASET orientation to benefit women and children at a shelter near Georgia Tech.

Once the donations are collected, the campus community is asked to help package the items as part of "Small Act Big Impact," a program organized by the Office of Leadership and Civic Engagement.

The program introduces new students to the service element of Tech's "Progress and Service" motto by having them make donations and perform an act of service before they even attend their first classes. It also gives the rest of campus a chance to interact, meet new students, and give back together.

"Current students often express an interest in working more closely with faculty and staff on service projects," says Sarah Perkins, civic engagement coordinator. "Our hope is that the packaging event can provide that opportunity during a student's first weekend on campus."

Donations are packed into "critical needs" and "job" kits for the Atlanta Day Shelter for Women and Children, an Atlanta Mission facility.

"We see this program as an entry point for students to learn about civic engagement on campus and to meet others who share an interest in service," Perkins says.

Citizens Police Academy

Through the creation of the Citizens Police Academy, the Tech community now has the opportunity to learn how the Georgia Tech Police Department (GTPD) — with its more than 80 sworn officers — is specifically trained to help ensure the community's safety.

"GTPD deploys some of the most sophisticated technology and training methods in the country to protect our community members," said Randy Barrone, captain of GTPD's administrative division. "We have found that building awareness of what we actually do as a police department is a great way to connect to those we protect."

"I was amazed by the experience and level of sophistication demonstrated by all the presenters [during an academy session] — many of whom are Georgia Tech graduates," says Mia Reini, director of Enterprise Risk Management and a past participant in the Academy. "I really learned a lot from the hands-on demonstrations and have a much better appreciation for all that these dedicated officers do in the course of their day."

When renovations are completed, Harrison Square behind Tech Tower will provide enhanced pedestrian and bicyclist mobility. The renovation project includes improved lighting, brick pavers, and re-grading.

Electric Vehicles

In the past year, Georgia Tech has seen steady growth in the number of electric vehicles (EV), with approximately 150 EVs parking on campus regularly.

A grant of nearly $40,000 from the Georgia Environmental Finance Authority to Tech's Parking and Transportation Services (PTS) will help the Institute expand its EV charging program by installing nine dual-port Level II chargers in visitor-accessible locations including near the Student Center, Howey Physics Building, and Bobby Dodd Stadium.

"We're very pleased to have been selected from a quality pool of candidates throughout the state to receive this grant funding, which will allow us to best leverage our limited transportation dollars to meet the growing need on campus for charging," said Lance Lunsway, director of Parking and Transportation Services.

To meet the need for EV charging, PTS has already installed Level II chargers in Tech Square, and Level I chargers in some campus parking decks. Demand is still growing.

Streetscape Renovations

The renovations of Harrison Square (ongoing) and Hinman Courtyard (completed in August 2015) will provide ecological improvements and more open spaces to unify the Tech campus. Both plaza renovation projects focus on enhancing pedestrian and bicyclist mobility. Eliminating curbs and gutters will allow pedestrians and bicyclists to move easily through the corridors. Improved lighting, brick pavers, and re-grading of Harrison Square will allow clear access east of Cherry Street and improved connectivity between Tech Tower and Harrison Square.

"As these rejuvenated spaces come back online, the campus continues to transform into a more pedestrian-friendly, sustainable, well-connected place," says Frank Lamia, associate director of Construction Services.

The positive environmental impacts — such as stormwater management and tree canopy preservation — that these projects have generated align with Tech's Campus Landscape Master Plan. Additionally, failing trees are being replaced with the same type of tree, providing shade for pedestrians, improving water permeability, and helping to mitigate the heat island effect.

PHILANTHROPY
AT WORK

"Creating the Next" is only an idea or an aspiration without the transformative power of philanthropy. Gifts and commitments from alumni, corporations, foundations, and many other friends of Georgia Tech enable our students, faculty, and industry partners to make their world-changing visions a reality.

Campaign Georgia Tech

In mid-October 2014, the total of gifts and commitments made to Campaign Georgia quietly slipped past the goal of $1.5 billion. Since the comprehensive fundraising initiative began in July 2004, it has raised more than $1.6 billion as of June 30, 2015. This generous funding supports:

- Endowment (student scholarships and fellowships, faculty chairs and professorships).
- Facilities (both renovation and new construction).
- Equipment.
- Current operations.

Campaign Georgia Tech
Our time. Our legacy.

Engineered Biosystems Building Reaches Private Funding Goal

ADVANCING HUMAN HEALTH The September 11, 2015, dedication ceremony for the Engineered Biosystems Building (EBB) served as a meaningful milestone for both the Georgia Tech community and the Institute's research and innovation partner in pediatrics, Children's Healthcare of Atlanta. EBB is integrating the biosciences, bioengineering, and biotechnology in an effort to dramatically improve human health on a global scale.

Georgia Tech's research and innovation partner in pediatrics — Children's Healthcare of Atlanta — has made significant philanthropic commitments to the Engineered Biosystems Building (EBB), helping to ensure the facility's future success. A dedication ceremony for EBB was held in September 2015.

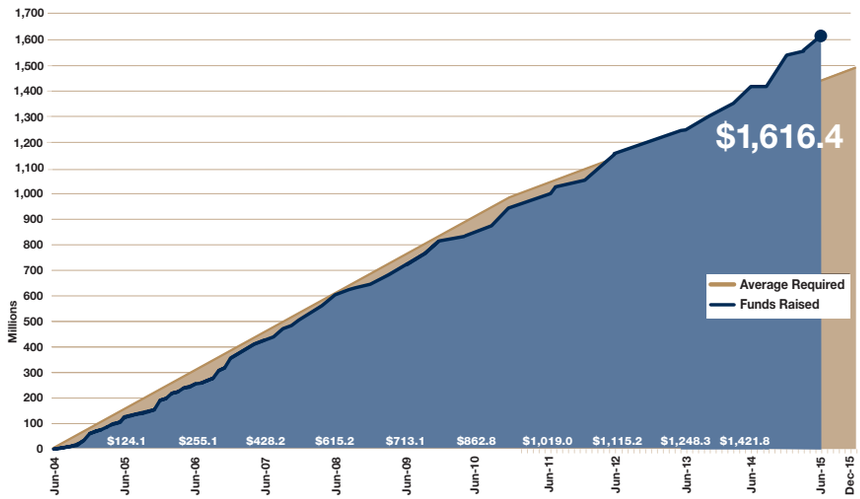
"Children's will have a significant presence in EBB and throughout the Georgia Tech campus as we grow this partnership and together transform health care for children," says President G.P. "Bud" Peterson. "The facility will integrate biosciences, bioengineering, and biotechnology with the goal of dramatically improving the human condition. Children's Healthcare and many other generous donors are giving the gift of hope on a grand scale."

Comprising more than 200,000 square feet of advanced research space, EBB is designed around the concept of "research neighborhoods," each with a specific focus, bringing together faculty from a variety of disciplines to share not only laboratories but also common spaces that will nurture the informal collaborations and conversations that can lead to new ideas and solutions.

"Disease is not simple," said Paul Goldbart, dean of the College of Sciences. "To understand it and to redress it, we must quantify, analyze, and manipulate the cellular logic of life. The fundamental discoveries made through the collaborations that will occur in EBB will lead to new insights that will ultimately help save lives."

CAMPAIGN PROGRESS: FUNDS RAISED V. REQUIRED

As of June 30, 2015



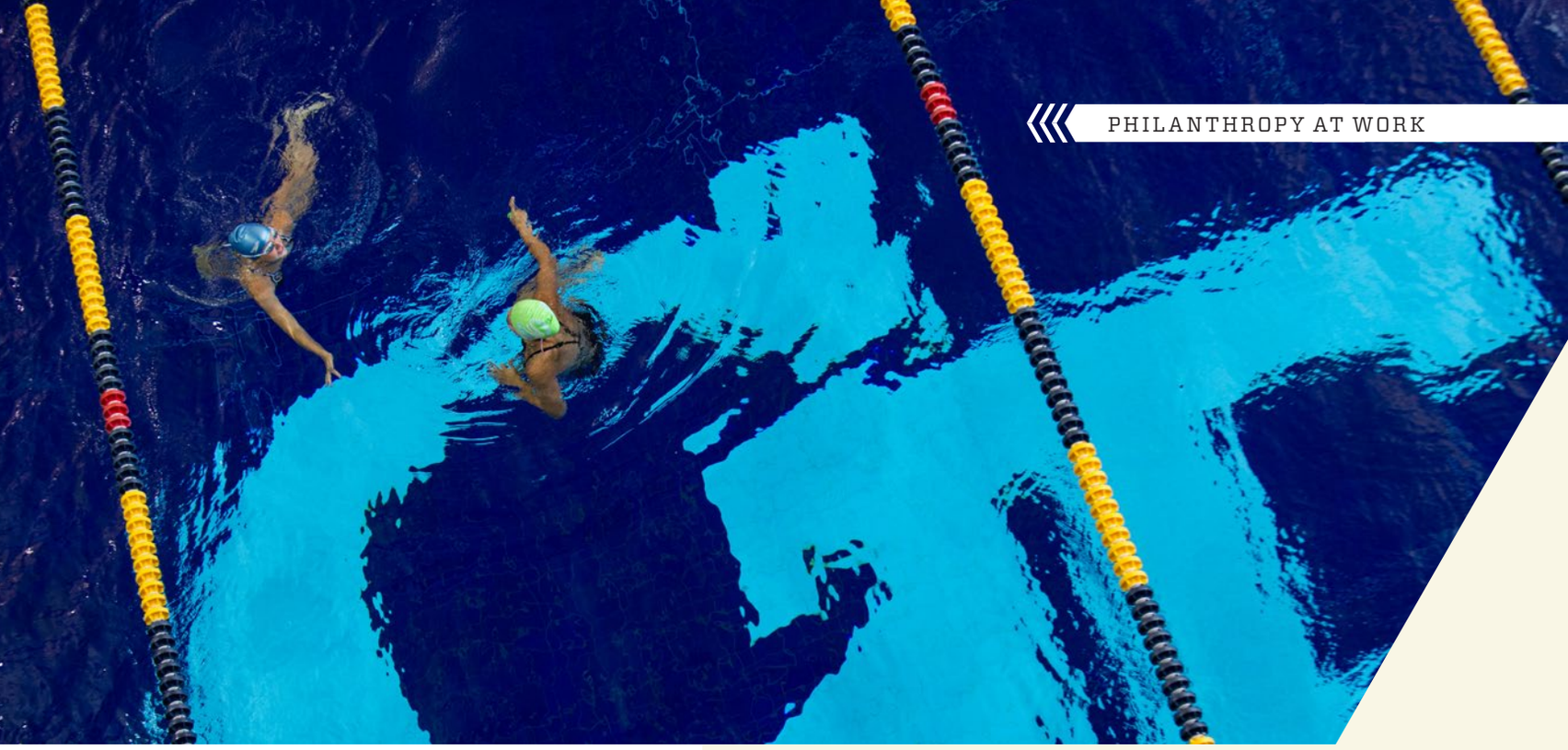
Jack and Leda Zbar's Estate Gift Will Be Transformative for ChBE, MSE

Jack Zbar, a 1956 chemical engineering alumnus, and his wife, Leda, made a significant testamentary commitment directed to several areas within Georgia Tech that are close to their hearts, including faculty support and student support directed to two schools and unrestricted support for the Institute.

The last of these, the Leda L. and Jack J. Zbar Endowment Fund, will one day provide significant resources for Georgia Tech — resources that will be deployed strategically by the president to meet pressing, immediate needs and to respond to opportunities as they arise in any given academic year.

The Zbars have also been strategic in committing future support to the Schools of Chemical and Biomolecular Engineering (ChBE) and Materials Science and Engineering (MSE). Through a series of charitable remainder unitrusts, one day their philanthropy will establish the Leda L. and Jack J. Zbar Chairs in ChBE and MSE, the Leda L. and Jack J. Zbar Scholarship Endowment Funds for students with demonstrated financial need in both schools, and will also fund faculty enrichment endowments in each.

Zbar is a leader in the chemical manufacturing and textile industries and the founder of Arrow Engineering in Dalton, Georgia.



Southern Company Dean's Chair in the College of Engineering Created

The renowned culture of quality, rigor, leadership, and innovation that has always been a hallmark of the College of Engineering has been elevated to even greater heights, thanks to a commitment from the Southern Company Foundation establishing the Southern Company Dean's Chair.

The grant creates the fifth dean's chair among the Institute's six colleges, following those already established in the Colleges of Computing, Liberal Arts, Business, and Architecture.

The Southern Company Dean's Chair will be dedicated to the incumbent dean of the College of Engineering — currently Gary S. May, a 1985 electrical engineering alumnus — enhancing the College's ability to attract and retain eminent teacher-scholars to this senior position of academic leadership. A portion of the income from the permanent endowment will be available to the dean to pursue research in his or her discipline as a member of the faculty, with the majority of the funds available to the dean for the enhancement of the College without restriction, whether to meet immediate needs or invest in future initiatives.

Michael K. Anderson (left), president and CEO of the Southern Company Foundation, announced the gift establishing the Southern Company Dean's Chair in the College of Engineering, held by Dean Gary S. May (right).

Gift Names Aquatic Center in Honor of Herb McAuley

A significant commitment from Richard Bergmark, a 1975 industrial management alumnus, has resulted in the naming of the Aquatic Center within the Campus Recreation Center in memory of Coach Herb McAuley, a World War II veteran and a 1947 electrical engineering alumnus.

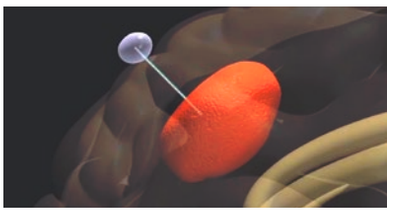
McAuley — who died in 2014 — is a legendary figure in Tech athletics, having served as a swimming coach for four decades. He was a standout on the masters swimming circuit, winning multiple national masters championships and continuing as an active swimmer into his 90s.

In naming the Aquatic Center in McAuley's memory, Bergmark wanted to honor the man who made a tremendous impact on the Institute's swimming and diving program, and on generations of students who flourished under his coaching, encouragement, and mentoring.

Bergmark's commitment establishes an endowment that will result in permanent stability for funding ongoing maintenance and improvements as well as expanded programming for the Aquatic Center.

Marcus Foundation Grant Supports Brain Tumor Research

The tumor monorail project, a collaboration between Georgia Tech, Children's Healthcare of Atlanta, and Emory University, received a $6.5 million grant from The Marcus Foundation. The project involves the design and testing of a novel device for more efficient treatment of brain tumors.



Professor Ravi Bellamkonda and his research team are working to hijack the migratory mechanisms of glioblastoma cells.

"Support from The Marcus Foundation will enable us to accelerate the development of a novel tumor monorail device to treat brain tumors in patients," said Ravi Bellamkonda, Wallace H. Coulter Chair in Biomedical Engineering and lead investigator of the project. "Research labs such as ours are set up to achieve scientific and engineering breakthroughs, but for these breakthroughs to reach patients, we need to follow good manufacturing practices, rigorous safety and quality testing, adhere to FDA guidelines for obtaining regulatory approvals, and design appropriate clinical trials. All of these processes are going to be greatly enhanced and accelerated with this critical and visionary Marcus Foundation support."

Additional support for the project was provided by Ian's Friends Foundation, an Atlanta-based non-profit that supports pediatric brain tumor research.

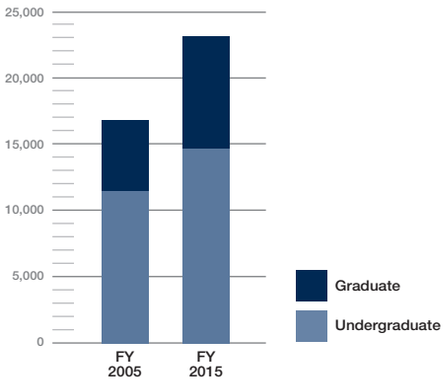
ENROLLMENT AND DEGREES

TOTAL HEADCOUNT ENROLLMENT

Enrollment	FY 2005	FY 2015	%Change
Undergraduate	11,545	14,682	27%
Graduate	5,296	8,427	59%
Total	**16,841**	**23,109**	**37%**
Full-time Equivalent (FTE) Enrollment	**16,023**	**21,114**	**32%**

Comparison of Headcount Enrollment by Level

FY 2005 & FY 2015



NEW DEGREES FROM 2005-2015

Bachelor's

Applied Languages and Intercultural Studies
Biochemistry
Biology*
Business Administration*
Chemical & Biomolecular Engineering*
Computational Media
Economics & International Affairs
Environmental Engineering
Literature, Media & Communication*
Materials Science & Engineering*

Master's

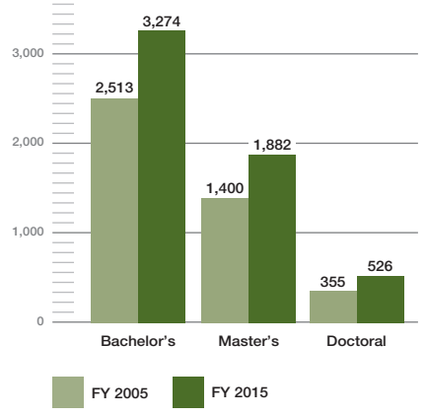
Analytics
Biology*
Biomedical Innovation & Development
Business Administration *
Computational Science & Engineering
Digital Media *
Enterprise Transformation
Geographic Information Science and Technology
History and Sociology of Technology & Science*
Mathematics*
MBA-Global Business
Medical Physics *
Music Technology
Professional Applied Systems Engineering
Supply Chain Engineering
Urban Design

Doctoral

Applied Physiology
Biology*
Biomedical Engineering (Joint Program)
Building Construction
City & Regional Planning
Computational Science & Engineering
Digital Media
Economics
History & Sociology of Technology & Science*
Human-Centered Computing
International Affairs, Science & Technology
Music Technology
Operations Research
Polymer, Textile & Fiber Engineering*
Robotics

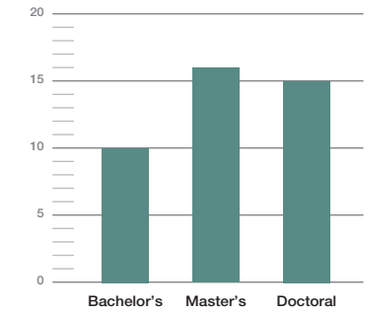
Comparison of Degrees Awarded by Level

FY 2005 & FY 2015



New Degree Programs

FY 2005 – 2015



* Updated programs

THE PRESIDENT'S CABINET

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Michael L. Warden
Vice President for Institute Communications

Lynn M. Durham
Assistant Vice President

G.P. "Bud" Peterson
President

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CREATING THE NEXT

Georgia Tech

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