Georgia Tech closes the century

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From the football team's Gator Bowl victory over Notre Dame in the early hours of 1999 to the late nights vigil, maintained by a loyal Tech staff on guard against the bugs of Y2K, 1999 was an incredible year for the Georgia Tech community. While the afterglow of the holidays and the excitement of a new century linger for a few more days, it's a good time to encapsulate some of what made that university special during the last year of the 20th century.

Students make a difference

As we look at everything here, students come first. This year, there were more of them than ever, as Tech's popularity continues to climb among almost all demographic groups and regions. Diversity is a perennial goal and the numbers of females and non-white students rose again. Total enrollment in the fall of '99 reached another record of 15,950 and kept Tech on track to meet the University System of Georgia's enrollment targets. We increased enrollments despite making the conversion to semesterized classes, something no other school in the University System was able to do.

Partially in response to climbing numbers, Tech took steps to improve the sense of community and ease the transition from high school to college by opening a pilot High School Learning Community.

Our students reflected a national trend toward community service and in the third annual TEAM Blitz, a record-breaking effort to improve the lives of people less fortunate throughout the metro Atlanta area. Nearly 2,000 student, faculty and staff volunteered at soup kitchens, nursing homes, community development projects and homeless shelters.

Faculty honors

Perhaps the most notable award bestowed upon Georgia Tech in 1999 was the one award which focused on Tech's most important mission—teaching. In competition with prestigious universities around the nation, Tech received the Theodore Hesburgh Award, the third increase in the goal since the Campaign began in 1995. The Campaign has raised $475 million to date, and to $600 million—the third increase in the goal since the Campaign.

Research recognition

Georgia Tech continued to demonstrate our research prowess with research volume reaching our fifth consecutive all-time high of $280 million in Fiscal Year 1999 expenditures. Tech also ranked fourth nationally in industry-sponsored research, an important trend as the federal government continues to reduce research expenditures.

In the news

Next to the 1999 Olympics, '99 was the most successful year on record for Georgia Tech-related publicity, with more than 2,200 non-sports stories printed or broadcast about Georgia Tech in local, regional and national media. Tech faculty and students were read about by readers of the New York Times, the Chronicle of Higher Education, the Wall Street Journal and the Chicago Tribune. They were seen on the ABC, CBS, and NBC; in the USA Today and the Atlanta Journal, as well as in countless local papers, radio and television stations.

Administrative support

An oft-overlooked and under-appreciated aspect of any institution is the administrative staff. Here, leadership serves as a model of the accomplishments of the faculty, and the support is generally not recognized by alumni. Tech plays a vital role in the Yarnacross Mission at the state level and in the Metro Atlanta Chamber of Commerce as a catalyst for industry-sponsored research, and economic development.

Changing face of campus

With space issues in almost every department, 1999 was remarkable progress in new construction and campus renovation. Between the Olympic transformation of recreational and housing space in the mid-90s and the academic and research improvements over the last three years, alumni hardly recognize Ma Tech when they return for a visit. Notable accomplishments in '99 include the Bioengineering and Biosciences building, the Sustainable Education Building, the Structural Engineering and Materials Research Laboratory, the North Campus Utilities Extension Project and the start of the decommissioning of the Neely Nuclear Reactor.

Threshold of a new era

Funding for some of these future projects came from the highly successful Capital Campaign which in December, raised the total goal to $600 million—the third increase in the goal since the campaign began in 1995. The Campaign has raised $475 million to date, and contributors have endowed 35 Campaign chairs, more than doubling the number of chairs established in Tech's entire history.

As we bid adieu to 1999 and stand on the threshold of a new era, the future looks bright for Georgia Tech. We are considered one of the nation's most exclusive faculty clubs—two prestigious universities, the University of Tokyo and the National University of Singapore have opened the Logistics Institute-Asia Pacific. In addition to expanding the physical boundaries of the Atlanta campus, Tech is bringing educational quality via distance learning initiatives in a variety of contexts. The most notable in 1999, was the offering of a master's degree in mechanical engineering on the Internet, the first such offering by any university in the world.

What we are learning and hearing from these partnerships and others like them is that people view Georgia Tech as a catalyst for education and economic development. This same recognition applies locally; Tech plays a vital role in the Yarnacross Mission at the state level and the Metro Atlanta Chamber of Commerce as a catalyst for industry-sponsored research, and economic development.

The Whistle celebrates 1999

With a new calendar year and a new century beginning, the time is ripe to look ahead and work toward new goals. Fueling this year's growth, however, are last year's accomplishments, and they deserve special reflection and recognition. It is in this spirit that The Whistle presents the 1999 Year in Review. Pages 2, 3 and 4 highlight achievements and successes of Georgia Tech's faculty, staff and students—a community of talented and dedicated individuals that continues to earn local and national recognition through teaching, research and service.

Although we know we cannot recognize everyone, we hope that the sampling on the following pages pays tribute to all.

Happy 2000!
Driving forces

Educational outreach

Tech's engineering program expanded to Southeast Georgia with the Georgia Tech Regional Engineering Program. The program offers undergraduate and graduate engineering degrees in collaboration with Armstrong Atlantic State University, Georgia Southern University and Savannah State University.

The National University of Singapore and Georgia Tech established The Logistics Institute-Asia to train engineers in specialized areas of global logistics, with emphasis on information and decision technologies.

Georgia Tech took Classroom 2000 on the road, installing similar classrooms at four other universities. Research was begun on the impact of Classroom 2000 on teaching and learning.

The Arts Education Program had a successful inaugural season in which Centennial Place Elementary School students and their parents learned about and enjoyed the fine arts. The program exposes the students to artists performing at the Robert Ferst Center for the Arts. The Center provided workshops led by the artists and tickets to six performances. The 1999-2000 program features 18 performing artists, and this year Grady High School students also will be participating.

National honors and recognition

Georgia Tech won the 1999 Theodore M. Hesburgh Award for Faculty Development to Enhance Undergraduate Teaching and Learning. The Teachers Insurance and Annuity Association and the College Retirement Equities Fund created the Hesburgh Award to acknowledge and reward successful, innovative faculty development programs that enhance undergraduate teaching, and to help inspire the growth of such initiatives at America's colleges and universities.

Georgia Tech continues to get high ratings. In 1999, Tech was ranked number 10 among public national universities, up from number 13 in the previous year. In the U.S. News & World Report ranking of "America's Best Colleges," Tech also climbed six places to number 40 among the best national universities, which includes public and private universities. Other notable rankings from U.S. News:

- College of Engineering graduate programs ranked 7th.
- All schools in the College of Engineering ranked in the top 15.
- School of Physics program in nonlinear dynamics/chaos program ranked fifth in the nation.
- College of Computing ranked 11th.
- College of Architecture ranked 15th.
- DuPree College of Management ranked 32nd.

Tech also received high rankings from Black Issues in Higher Education in its annual "Top 100" list of colleges and universities that graduate the most students of color. Georgia Tech continued its national leadership in minority graduate education with a number one ranking (tied with Stanford) in engineering doctoral degrees awarded to minority students, and number two rankings in engineering bachelor's and master's degrees awarded to minorities.

Economic development

Gov. Roy Barnes announced the Yamacraw Mission, a major initiative designed to position the state as a world leader in high-technology industries. Over the next five to seven years, Yamacraw is expected to create several thousand new jobs in the innovative fields of software engineering and electronic design and will have a major impact on Georgia Tech.

Just three months after the Yamacraw announcement, Gov. Barnes announced a $1.7 million grant that over two years will allow Tech to double the number of computer scientists graduating from the College of Computing. Funding comes from the Intellectual Capital Partnership Program (ICAPP), a University System of Georgia economic development effort.

Beyond expanding the number of graduates, the initiative broadens continuing education opportunities in computer science, makes additional co-op positions available to Tech students, and expands existing relationships between Tech and three partner companies: CheckFree Corporation, Internet Security Systems and Nortel Networks.

The iXL Center for Electronic Commerce was created with a $1.5 million grant from the Atlanta-based Internet marketing services company. Housed in the DuPree College of Management, the interdisciplinary center sponsors state-of-the-art research and education in the emerging field of electronic commerce and draws from Tech's resources across the campus including the College of Computing and other research centers. Anindya Datta was named director, and Shridhar Narasimhan and Fred Higgins serve as associate directors of the Center.

Men's basketball had a winning record and won two NIT tournament games.

Top athletes: Joe Hamilton, Davey O'Brien award winner, Hissman Trophy runner-up and top choice as quarterback for the Associated Press' All-America team; Lynn Houston, Georgia NCAA Woman of the Year, Andria King, ACC Women's Track Performer of the Year, five-time all American; Bryce Molder, ACC Golf Player of the Year; Benjamin Cassaigne, ACC Men's Tennis Player of the Year.

Tech's New Year's Day loss to the Miami Hurricanes in the 2000 Gator Bowl marked the Yellow Jackets' third consecutive bowl appearance.

Quarterback Joe Hamilton

Editor's note: For more "Driving Forces," see page 4 for "Appointments and Distinctions."
\textbf{Ground breakers} \\
\textbf{Research highlights and advancements}

Thad Starner's wearable computer grabbed international attention. Starner has worn his computer since 1993, when he was a student in the Massachusetts Institute of Technology media lab. He even wrote his 250-page doctoral thesis using the wearable computer, typing with the Twiddler, a handheld keyboard. He keeps it in a briefcase or a backpack.

He carries the hard drive in a black bag over his shoulder.

The nation's first SuperSite was established in Atlanta with Bill Chameides, Regents' professor in the School of Earth and Atmospheric Sciences, as its director. Studies done at the site aim to determine the best ways to measure air pollution.

Testing began on the next generation of tornado forecasting technology that could increase warning time by as much as 50 percent in north Georgia. GTRI researchers will continue testing and optimizing the National Severe Storms Laboratory's Next Generation Warning Decision Support System through the 2000 tornado season. The test area is north Georgia, but study results will be applicable statewide.

Tech is a leader in building Internet2, which began operation in February. This second-generation Internet moves large volumes of data 600 times faster than the conventional Internet.

GTRI delivered to the U.S. Air Force an upgraded test facility believed to be the only one of its kind in the world. The Bistatic Coherent Measurement System (BICOMS) conducts wide bandwidth bistatic imaging and radar cross section (RCS) measurements of full-sized aircraft. Bistatic measurements are essential to understanding the stealth characteristics of military targets that use shaping as the primary approach to radar cross section reduction.

Field-testing began on a GTRI-developed biosensor that can quickly and simultaneously identify species and determine concentrations of multiple pathogens, including the deadly E. coli 0157:H7 and salmonella. The sensor can make these measurements in food products in less than two hours while in operation on a processing plant floor—a fraction of the time that traditional laboratory testing requires.

\textbf{Growth and changes}

The Georgia Tech Foundation trustees voted to raise the capital campaign goal from $500 million to $600 million at their December meeting. The Campaign goal was originally $300 million—it was raised to $400 million when the Campaign went public, and again last August.

Georgia Tech is the beneficiary of the largest gift ever received by an athletic program—$160.5 million from the estate of Lee Edwards Candler. Mrs. Candler was the widow of Charles Howard Candler Jr., the grandson of Coca-Cola founder Asa Candler. She died in February. Mrs. Candler's $140 million estate was divided between eight organizations: Georgia Tech, LaGrange College, the Atlanta Union Mission, the Boys and Girls Clubs of Metropolitan Atlanta, the Salvation Army, the High Museum of Art, the Howard School, and the Children's Healthcare of Atlanta Foundation.

A record 2,300 freshmen with an average SAT score of 1305 selected Georgia Tech—the largest, most talented and most diverse freshman class in Tech's history.

Georgia Tech made the leap from a quarter-based to a semester-based curriculum. The conversion was taken as an opportunity to reassess the educational goals of various programs and to refocus attention on the quality and breadth of undergraduate and graduate programs. Schools put comprehensive semester conversion manuals on the web, while the Registrar's Office and the Undergraduate Curriculum Committee were able to get advice on how to make the semester conversion as painless as possible from other units of the University System, which had made the change a year earlier than Tech.

Post Chairman and Chief Executive Officer John A. Williams donated $1.5 million to the College of Architecture to establish the Harry West Distinguished Faculty Chair in City Planning, named to honor the director of the Atlanta Regional Commission. Williams' commitment is the lead gift in a fund-raising initiative designed to create the Center for Quality Growth and Regional Development at Georgia Tech. The chair will be the first endowed faculty position within the College of Architecture.

Professionally focused master of science degrees were initiated. The Bioinformatics Master's Program accepted students in fall 1999, while the new master's program in Quantitative and Computational Finance is due to begin in the fall of 2000. Bioinformatics is a new discipline integrating mathematical, statistical and computer methods to analyze biological, biochemical and biophysical data. The College of Sciences' program is one of the first of its kind in the United States.

The W.M. Keck Foundation awarded a $1 million grant to a team of faculty in the School of Industrial and Systems Engineering. The grant is earmarked for a research program to create next-generation factory modeling technologies and engineering tools, using the facilities of the W. M. Keck Virtual Factory Lab.

ON Semiconductor, formerly a division of Motorola, will provide $1.5 million to the School of Electrical and Computer Engineering to endow the ON Semiconductor Professorship in Analog Integrated Circuit Design and the ON Semiconductor Graduate Fellows program.

With a five-year, $730,000 grant to Georgia Tech, the Lockheed Martin Foundation established a Lockheed Martin Term Professorship in Avionics Integration and related student internships at the company.

Tech dedicated the Structural Engineering and Materials Laboratory and Plasma Applications Research Facility. The laboratory will aid researchers in creating and testing ideas for building construction, bridge building, earthquake research and waste remediation.

The Board of Regents approved the Executive Master's in International Logistics. The program, scheduled to begin in April, is designed primarily for rising logistics professionals with 5 to 10 years' experience.

Tech opened the $30 million Bioengineering and Bioscience Building, the first in the development of a four-building biocomplex.

The arrival of two giant pandas at Zoo Atlanta created international interest. Rebecca Snyder, a doctoral student in the School of Psychology, started her unique research of the pandas in China and is continuing her studies here. Her research, which aims to help save this endangered animal, is taking a behavioral research approach to try to improve the success rate of captive panda breeding.

Gary Schuster, School of Chemistry and Biochemistry and dean of the College of Sciences, found evidence that DNA is conductive. With his graduate student Susan Gasper, he showed that the guanine doublet in DNA, an easily damaged site, can be oxidized via long-range charge transfer down the DNA double helix. The doublet has been implicated in carcinogenesis.

Robin Thomas, School of Mathematics, together with colleagues at Princeton and Ohio State universities, solved an algorithmic enigma that had graph theorists and computer scientists puzzled for more than 25 years. They developed an algorithm that solves the even directed cycle problem. The algorithm has direct applications in economics, statistical mechanics and calculating permanents of matrices.

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Announcements and distinctions

Two new deans were named: In March Sue V. Rosser was named dean of the College of Management. In July Terry C. Bhum was named dean of the DuPree College of Architecture.

Technology Review, "MIT's Magazine of Innovation," named the following to its list of Top 100 Young Innovators (TR 100): Amy Bruckman, College of Computing; Mark Prausnitz, School of Chemical Engineering; and Thad Starner, College of Computing.

James C. Powers, Regents' professor in the School of Chemistry and Biochemistry, was honored for his achievements in the classroom and as a researcher when he was named the 1999 Distinguished Professor, Tech's most prestigious faculty award.

Senior Chris Young received one of the nation's highest academic honors, the Truman Scholarship. Young was one of approximately 75 college students nationwide who received a $30,000 award from the Truman Scholarship Foundation. He is Tech's fourth Truman Scholar.

Craig Dellello, Tech's first profoundly deaf student to use sign language as his primary mode of communication, earned a master's degree in electrical engineering.

Eighteen-year-old Jonathan Jackson earned a bachelor's degree in physics in only two years and eight months. Don P. Giddens, chair of the Georgia Tech/Emory School of Biomedical Engineering, was elected to the National Academy of Engineering, one of the highest professional distinctions accorded an engineer.

Ralph Mobley was appointed director of Career Services. He was previously the manager of IBM's national university recruiting program. Mobley took over from retiring director John Hannabach, who had been at Tech for 11 years.

The Georgia Engineering Center named Suresh Sitaraman, School of Mechanical Engineering, the 1999 Metro-Atlanta Engineer of the Year in Education.

Rita Gregory, Building Construction Program, College of Architecture, and the School of Civil and Environmental Engineering, was named the Metro-Atlanta Engineer of the Year in Government.

April S. Brown was appointed associate dean in the College of Engineering. Brown focuses on faculty development programs and implementation of strategic initiatives.

Donna Llewellyn was appointed director of the Center for the Enhancement of Teaching and Learning following the retirement of Dave McGill after a 31-year career at Tech. She was previously an assistant director for Academic Support in the School of Industrial and Systems Engineering.

Catherine L. Ross, professor of City Planning, became the executive director of the Georgia Tech Transportation Authority (GRTA), a Georgia superagency, created by Gov. Roy Barnes, to tackle traffic congestion and pollution problems in metro Atlanta's 13 counties.

Eight faculty received National Science Foundation Faculty Early Career Development (CAREER) Awards: Kenneth Mackenzie, College of Computing; Amy Bruckman, College of Computing; John Schulman, College of Computing; John Zhang, School of Chemistry and Biochemistry; Fotis Sotiropoulos, School of Civil and Environmental Engineering; Rami M. Haj-All, School of Civil and Environmental Engineering; Anton J. Kleywegt, School of Industrial and Systems Engineering; Anne Steinemann, College of Architecture.

Cheryl K. Contant was named professor and director of the College of Architecture's City Planning Program. Previously, she spent 14 years on the faculty of the graduate program in Urban and Regional Planning at the UI of Iowa.

John B. Carter Jr. was named vice president and a standing officer of the Georgia Tech Foundation 1985, he had served as executive director of the Georgia Tech Alumni Association.

Joseph P. Irwin was named vice president and executive director of the Alumni Association. Irwin (IM '78) was named after a 19-year career with the JE Division of Russell Corp.

Charles Harvey was appointed director of intern programs, following the retirement of Miller Ten Harvey was previously director at San Francisco University.

Bryan Runkle was named director of Georgia Tech Executive Master's in International Logistics (EM Program). EMIL provides executives with the executive skills to understand International technologies and the mental skills to mold an e-business strategy.

Appointments and distinctions

Courses/Workshops

Jan. 19 - 20

"Low Cost Flip-Chip Processing and Analysis with Application" on Applications, 8 a.m. - 5 p.m., Manufacturing Research Center (MARC) building. For more information, contact 894-9600.

Sports

Jan. 13


Jan. 15

Men's basketball, Tech vs. Maryland, 8 p.m., Alexander Memorial Coliseum.

Miscellaneous

Jan. 20


The President's Scholarship Program seeks faculty and students willing to devote 25 hours between Jan. 15 and Jan. 19, to grade applicants' teacher evaluations. They are the top student leaders among the 3,700 applicants. Contact Randy McDow, 894-1615 or mc dow@prism.gatech.edu.

Classifieds

Editor's note: Due to the space required for the year-in-review issue, the Classifieds could not be included. They will return next week.