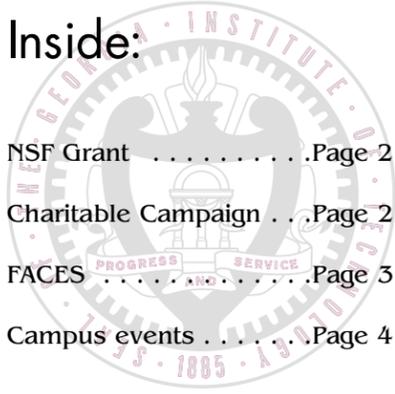


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# THE WHISTLE

FACULTY/STAFF NEWSPAPER

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THE GEORGIA INSTITUTE OF TECHNOLOGY

## State of the Institute 2001: Shaping futures through innovation

*Sarah Eby-Ebersole  
 Institute Communications  
 and Public Affairs*

In his annual State of the Institute Address, President Wayne Clough told the Georgia Tech community, "We strive to define the technological university of the 21st century because of the opportunity and the capability it will provide to shape futures through innovation — the futures of our students, our Institute, and the citizens of our community, state, nation and world."

Clough spoke to the faculty and staff as part of the fall meeting of the General Faculty, held concurrently with the General Faculty Assembly on October 9. He addressed the student body on October 11, and will speak to the Alumni Association during Homecoming on October 19.

The address, entitled "Shaping Futures Through Innovation," began with a recap of the significant achievements of the prior year, then focused on the Institute's Strategic Plan, developed during the past year with input from faculty, staff, students, alumni and friends.

### Recapping an outstanding year

Clough illustrated Georgia Tech's increasing excellence by recognizing students, faculty and administrative staff who had won national and even international awards or assumed leadership positions in national or international organizations during the past year.



Above, mechanical engineering student Christyn Magill takes part in one of 50 projects funded specifically to encourage undergraduate contributions in research endeavors.

He commended young faculty for winning thirteen CAREER Awards from the National Science Foundation — the most any single university has ever won in one year — and remarked that Tech's total of 59 CAREER Award winners puts it ahead of M.I.T. and second only to the University of Illinois at Urbana-Champaign. He saluted the excellence of senior faculty by welcoming eminent scholars who accepted appointments to 16 endowed chairs and professorships including several school chairs during the past year.

He noted the 40th anniversary of Georgia Tech's voluntary integration and the Institute's ranking by Black

Issues in Higher Education as first in the nation in graduating African American engineers at all degree levels. But he added, "Even as we enjoy the recognition of this accomplishment we also rededicate ourselves to the work ahead, because the numbers are still not where they need to be."

### Trend lines rise

Using a series of graphs, the president pointed out the upward trajectories during the past ten years in enrollment, number of faculty, research expenditures and cash contributions to the Institute. Data showed a steady rise in the average SAT scores of incoming freshmen and GRE scores of incoming graduate students during the past four years.

Clough noted that the enrollment increase was not the result of admitting a larger freshman class, but rather of undergraduate retention, maturing graduate programs, and growing enrollments at off-campus sites.

Research expenditures were up for the seventh consecutive year, and exceeded \$300 million for the second year in a row. Cash contributions reached an all-time high of \$120 million last year. "Increasingly, alumni, corporate partners and friends have joined us in our vision and invested in us," Clough said.

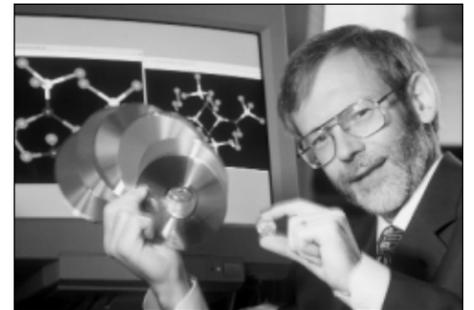
### Cranes soar over campus

Clough concluded his status report with a review of facility plans. The largest project underway is the Ford Motor Company Environmental Science and Technology Building, the second of four buildings in the Life Sciences/Technology Complex on Ferst Drive. The Bioengineering and Bioscience Building is already open; construction will begin on the Whitaker Biomedical Engineering Building in 2002; and the Molecular Design and Technology Building is in the planning stage.

**Implementing the Strategic Plan**  
 Georgia Tech's Strategic Plan emphasizes its intent "to be the institution that defines the technological university of the 21st century," Clough said. It identifies seven critical areas in which the Institute must excel to achieve that goal: student-focused education, diversity, research, outreach, education technology, administrative improvements, and facilities. Clough directed his remarks toward student-focused education, outreach and research.

### Student-focused education

Reporting on the undergraduate research initiative he announced in his 2000 State of the Institute Address, Clough said about 50 research projects had been funded through the Institute-wide fund he created, and schools and colleges also provided resources.



With research funding at an all-time high, many professors like Will Rees are able to pursue breakthrough technologies.

The president commended the broad-based team that developed the student midterm progress report, which is being implemented this month. All students in 1000- and 2000-level courses will be advised as to their academic progress, and any student with an unsatisfactory report is strongly encouraged meet with his or her academic advisor to address the problem, Clough said.

He also looked ahead to the new undergraduate education facility. Although state funding will not be available for several years, he said it is important for the campus community to have the building on its radar screen, because it is designed to serve as a vision for undergraduate education that is being developed during the intervening years.



Facilities like the Environmental Science and Technology Building, one-fourth of the Life Sciences/Technology Complex "will allow Georgia Tech to be at the forefront of interdisciplinary areas that will dominate the future of our society," said Clough.

*Institute continued, page 3*

## “QUOTE— UNQUOTE”

“Even if (black-owned companies) don't feel a moral imperative here, it makes good economic sense ... If you can generate enough black-owned businesses to employ, say, 5 percent of the black work force, you've begun to make a serious dent in black unemployment. As their revenue grows their employment capacity grows and the economy grows.”

—Thomas Boston, professor of economics, on a study that analyzed how the economic impact of African-American business in the Cincinnati area could be broadened. (Cincinnati Business Courier)

## New grant to support women in science and engineering

### Female faculty members will be beneficiaries

Larry Bowie  
Institute Communications  
and Public Affairs

The National Science Foundation (NSF) has awarded Georgia Tech a \$3.7 million grant over five years to support the retention and advancement of female faculty in the fields of science and engineering.

Called the ADVANCE institutional transformation award, the program supports new approaches to improving the climate for women faculty in U.S. academic institutions and facilitating their advancement to the highest ranks of academic leadership.

Tech is one of eight universities that received a multi-year ADVANCE grant of \$3 million to \$4 million from NSF. Selected institutions have developed plans to pursue new organizational strategies to make access by women to the senior and leadership ranks of university faculties a priority, according to the NSF.

“Georgia Tech has a vital and unique constellation of faculty, staff and programs that are committed to the advancement of women in science and engineering,” said Provost Jean-Lou Chameau. “The Institute is in a prime position to address the issues that are unique to female faculty members, not only at Georgia Tech, but across the nation.”

Tech will use the grant to create four professorships for senior female faculty members. One faculty member from each of the following four colleges will be selected: the College

of Engineering; the College of Sciences; the Ivan Allen College of Liberal Arts; and the College of Computing.

The grant will support research pursuits by the four faculty members holding the professorships. The faculty will also be called upon to provide leadership to other women in their academic areas and develop inter-academic networks, said April Brown, Pettit Professor of Electrical and Computer Engineering and executive assistant to the president. Brown is a co-principal investigator for the grant and will help lead the team of deans and faculty from across the campus who will guide the disbursement of the grant.

“The initiative takes an integrated approach to institutional factors that will support the full participation and advancement of women, and provide a model of best practices in academic science and engineering,” said Mary Frank Fox, sociology professor and co-director of the Center for the Study of Women, Science, & Technology. Fox is a co-principal investigator for the ADVANCE team.

The grant will also support a wide range of activities including retreats, a workshop for grantees, and mentoring and evaluation training – all aimed at helping women to make advancements in the fields of science and engineering. In addition, it will support the gathering of information on equity, advancement and family-friendly practices.

These grants are part of the NSF's comprehensive effort to diversify the science and engineering work force. The intent is that the activities undertaken by Tech and the other institutions will become models that

may be replicated in institutions throughout the nation.

Although women earn 40 percent of all doctorates in the United States, they continue to be under-represented in almost all science and engineering fields. Women make up 22 percent of the science and engineering work force in general and less than 20 percent of the science and engineering faculty in four-year colleges and universities.

At Georgia Tech, full-time female faculty account for approximately 10 percent of the combined faculty in the College of Engineering and the College of Sciences.

“Academic institutions play a pivotal role in preparing the science and engineering work force, and their faculty and leaders serve as intellectual, personal and organizational role models that shape the expectations of future scientists and engineers,” said Alice Hogan, NSF's ADVANCE program manager.

“Ensuring that the climate, the policies and the practices at these institutions encourage and support the full participation of women in all aspects of academic life, including leadership and governance, is critical to attracting students to science and engineering careers.”

Other universities receiving ADVANCE Institutional Transformation awards from the NSF are New Mexico State University, the University of Washington, the University of Puerto Rico at Humacao, the University of Colorado at Boulder, the University of Michigan, the University of Wisconsin at Madison and the University of California at Irvine.

## OIE advising Tech's international academic community

Michael Hagearty  
Institute Communications  
and Public Affairs

There may be no bigger domestic issue following the September 11 terrorist attacks than the safety and security of air travel. As a result, the higher level of scrutiny has not only created delays but also prompted questions within Tech's international community.

In response to these inquiries, the Office of International Education (OIE), which represents almost 3,000 students and scholars on campus, put out information last week with the intention of easing concerns and providing facts.

Much of the interest, said Sheila Schulte, senior coordinator within OIE, was a result of one U.S.

senator's recent legislative initiative that proposed a six-month moratorium on student visas, something which has since been shelved.

“They read or hear about this proposed moratorium and then worry about their travel plans for winter break,” she said. “There's lots of rumors about what may happen, which is generating most of our calls (in OIE).”

OIE, whose chief responsibility is being the liaison between the Department of State, the Immigration and Naturalization Service (INS), and the Tech international community, noted that there had been no changes to immigration law affecting students and scholars, but rather a stronger enforcement of existing laws. The office is recommending that these groups make a

point to carry their passport as well as their I-94, I-20 and IAP-66 documents if taking a trip.

“They may not be stopped or even asked (for documentation), but INS officials are going to be at ticket counters more often,” Schulte said, even when travelling within the United States.

In the Office of Human Resources, concerns regarding petitions for H-1B visas, which allow professionals to enter the United States and accept temporary employment within their profession, are premature.

“So far I have not seen a slowdown (in petition approvals),” said Beth Barton, director of business operations in the Office of Human Resources. “If there are slowdowns, they're not affecting us right now.”

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At left, Miriam Drake, former dean of the Library, and Thomas Hamall, former director of Institute Partnerships, right, sign asking letters as part of their duties as co-chairs for the retiree campaign — one aspect of Tech's overall effort in the annual statewide charitable campaign. The Campaign continues through the month of October.



### Doctoral student awarded FACES career grant



Above, Reginald DesRoches (left), assistant professor in the School of Civil and Environmental Engineering, and President Clough stand with Ron Metoyer, who was awarded a FACES Career Initiation Grant last month. A \$2.5-million National Science Foundation Alliance for Graduate Education and the Professoriate Grant has provided for the development of the FACES (Facilitating Academic Careers in Engineering and Science) program. The goal of the program is to increase the number of minorities pursuing advanced degrees in engineering and science. In particular, the program aims to increase the number of underrepresented students pursuing careers in academia. One facet of this program is the FACES Career Initiation Grant, which awards \$20,000 grants to promising doctoral graduate students who pursue tenure-track faculty positions in engineering or science at a U.S. college or university. Metoyer, this year's recipient, recently completed his doctoral degree in computer science in the area of computer graphics and animation. He has since joined the Department of Computer Science at Oregon State University as an assistant professor. For more information about the FACES program, visit [www.omed.gatech.edu/programs/faces/index.html](http://www.omed.gatech.edu/programs/faces/index.html).

#### *Institute, continued from page 1*

The new undergraduate facility will feature technologically enhanced laboratories and classrooms for freshman and sophomore science courses, an information commons, support services for advising and related student activities, and special programs to improve teaching and learning.

#### **Reaching out from campus**

The second strategic thrust the president addressed was the Institute's outreach into the neighborhoods around campus. To the north, he cited the Georgia Tech Research Corporation offices, the Aware Home, and the childcare center Georgia Tech will build in conjunction with the Home Park neighborhood.

To the southwest, the North Avenue Research Area is replacing decrepit buildings, and Tech is developing relationships with the neighborhoods around Antioch Baptist Church and English Avenue area, where more than 200 Georgia Tech employees live. On the south side of campus, Tech provides volunteer services at the new YMCA and elementary school.

Clough focused most of his attention on Technology Square, which extends the Georgia Tech campus across I-75/85 at Fifth Street. While Technology Square is under construction on the south side of Fifth Street, the Yamacraw Broadband Design Center, which will house 45 Tech

computing faculty, and new facilities for the Advanced Technology Development Center will be under construction on the north side.

**"The only way to predict the future is to have the power to shape the future."**  
—Eric Hoffer

#### **Building interdisciplinary programs**

Speaking to the Strategic Plan's call for an enhanced research enterprise, the president cited six interdisciplinary fields in which Georgia Tech has tremendous leadership potential: biotechnology, nanoscience and nanotechnology, advanced communications, global technopreneurship, sustainable technology, and emergency response. "But we must be creative and resourceful if we are to bring the best talent and facilities required to grow these initiatives," he said.

He reviewed the development of Georgia Tech's biotechnology initiative as a case study in developing a well-rounded interdisciplinary program that includes all essential ingredients: impressive talent; major research programs, including the National Science Foundation Center for Excellence in Tissue Engineering; academic degree programs at all levels;

technology transfer programs, including a business incubator; innovative, interdisciplinary facilities; and critical private support, especially from the Whitaker and Coulter Foundations.

The success of the biotechnology initiative is the result of being strategic, open to interdisciplinary research and education, and willing to work across institutional boundaries and build coalitions, Clough said. "I believe Georgia Tech has the potential to do the same thing in other significant interdisciplinary areas," he added.

#### **Positioned to make a difference**

Clough closed his address with a reference to the recent terrorist attacks on the World Trade Center and Pentagon. "In a few short hours on September 11, we experienced a national tragedy that undermined in some measure the confidence our nation had felt entering the 21st century," he said. "Yet nothing need deter us from our mission of educating the leaders of tomorrow and creating the knowledge required to address the problems we face. Indeed, both of these tasks are now even more important to our nation, reinforcing as never before the essential nature of what it is we are positioned to do. If we remain true to our well-honed strategies and unleash the talent of the people who are Georgia Tech, our opportunity to make a difference has never been greater."

## IN BRIEF:

### Study abroad from home

In today's global educational environment, many students choose to participate in study abroad programs. These programs provide students with opportunities to expand their views of the world through firsthand experience with different educational systems and make them more competitive in the job market. However, these programs can be quite expensive and time consuming for some students, making the benefits beyond their reach.

The European Union Center (EUC) of the University System of Georgia is addressing these concerns. Last week, the EUC launched an Internet-based program that will provide students with the opportunity to study abroad without leaving the state. Students will be able to earn a joint certificate from their home institution and the University of Munich in Germany.

The certificate is part of a program on European Union Studies offered by 26 institutions in the University System. Through a grant provided by the USG, nine web-based courses are being developed on the European Union.

"The European Union web certificate program will become essential to the international education of many students in Georgia," said William Long, co-director for the European Union Center and chair of the School of International Affairs. "Students in Georgia will be taught by leading European scholars without the expense of a trip overseas. This program can serve not only as a method of access to international education for many students, but also as a supplement to better prepare students planning to go overseas."

### Need to alter your benefits?

Open enrollment will be held October 15 through November 15 for the following benefit plans: health insurance, short/long term disability insurance, dependent/supplemental life insurance, Section 125 Pre-Tax Plan, Oral Health Services Dental Plan, AFLAC supplemental insurance and flexible spending accounts. During the open enrollment period, individuals may add or make changes to any of these benefit options, effective January 1, 2002. There will be no open enrollment under the Board of Regents' Dental Plan.

Additionally, a Benefits Fair will be held on October 31 from 10 a.m. until 3 p.m. in the Student Center Ballroom. Representatives from the health insurance carriers, tax deferred annuity companies, AFLAC, Teachers Retirement System, optional retirement plan, U.S. Savings Bonds Plan, short/long term disability insurance plan, the Credit Union and Oral Health Services will be present, as well as staff members from the Office of Human Resources. Also, at the Cobb County facility, an open enrollment session will be held October 29 from 11 a.m. until 1 p.m. in the Building One Auditorium.

### COE seeks qualified candidates

In addition to soliciting applicants for dean in various national publications, the College of Engineering has created a web page advertising the vacancy. It may be accessed at [www.coe.gatech.edu/deansearch/](http://www.coe.gatech.edu/deansearch/).

### Buzz Bash

As part of Homecoming 2001, members of the Tech community are invited to a party the evening before the football game. Buzz Bash will be held on October 19, 6:30 p.m. to 9 p.m., in the festival area of the west stands. Enjoy a DJ, dancing, sidewalk entertainers, the GT Cheerleaders, the GT Band, and fireworks. Food and beverages are included in the cost of admission. For more information, go to [gtalumni.org/homecoming](http://gtalumni.org/homecoming) or call 894-9272.