Tech named among best places to work in academe

David Terraso
Institute Communications and Public Affairs

Readers of The Scientist magazine have ranked the Georgia Tech as one of the top 15 places to work in academia in the United States. In a national survey, readers of the life sciences magazine and news site placed Tech 11th among academic institutions. Results were published in the magazine’s October issue.

“I'm especially pleased to learn that our faculty think so highly of Georgia Tech as a place to teach and conduct research,” said Gary Schuster, provost of Georgia Tech. “We strive to create an environment that nurtures young faculty and encourages creative thinking from our faculty so they can produce innovative research that will enrich their fields, their students and the institute.”

The Scientist’s Best Places to Work survey series is currently in its fourth year. Survey respondents listed personal fulfillment as the top factor in determining workplace satisfaction. Peer relations, institutional manage- ment and tenure procedures also ranked among the most important factors. Institutions earning high marks in those categories took this year’s top honors.

“We're proud to be able to provide this information to our readers year after year,” said Richard Gallagher, the magazine’s publisher. “It's important for scientists to be able to tell their peers exactly how they feel about where they work.”

The Scientist posted a Web-based questionnaire and invited readers and registrants on its Web site to respond. Participants had to identify themselves as tenure- or tenure-track life scientists working in academia or other non-commercial research organizations. Participants were asked to assess their working conditions and environments by indicating their level of agreement with 39 criteria in eight different areas. They also indicated which factors were important to them. The magazine ranked 58 institutions from the United States, seven from Canada and 10 from the United Kingdom.

Report outlines education’s impact on local economy

Colleges and universities in the Atlanta region contribute more than $10.8 billion and 150,000 jobs to the state’s economy annually, according to a study by the Atlanta Regional Council for Higher Education (ARCHIE).

The report brings together data from 39 degree-granting, accredited private and public institutions in the Atlanta area and shows a spending impact from the institutions, their students, employees and visitors of more than $9.2 billion a year. Spending on capital improvements adds another $1.5 billion impact in Georgia.

“Higher education is a significant sector of the Georgia economy,” said ARCHIE President Michael Gerber. “This report shows us a different way to think about the region’s colleges and universities. These are not only great educational institutions — they're major developers, they're tourist attractions and they're big employers.”

“Until now, we have vastly underestimated the economic impact and overall importance of higher education to Georgia,” said Craig Lesser, commissioner of the Georgia Department of Economic Development. “All of us need to do a better job of talking about higher education’s contributions to Georgia and Atlanta as great destinations to live and do business.”

By the numbers:

$10,767,423,000 — Annual economic impact, Georgia
129,050 — Jobs created annually, Georgia
$7,630,231,000 — Annual economic impact, Atlanta region
116,230 — Jobs created annually, Atlanta region
216,500 — Annual enrollment in Atlanta-area higher education

After the war, veterans changed Tech forever

Enrollment soared, straining campus infrastructure

Neil McGehee
Alumni Association

Even as the final shots of World War II were being fired, the United States braced for an invasion — thousands of returning veterans, eager to take advantage of the Servicemen’s Readjustment Act, better known as the GI Bill.

Signed into law by President Franklin D. Roosevelt in June 1944, the bill enabled veterans to attend any college or vocational school at government expense. By 1947, more than 1 million veterans had enrolled — 6,514 at Georgia Tech.

“After we dropped the (atomic) bomb, Navy officers came around and asked us if we wanted to re-enlist or go home,” Keith Wilson of Moultrie, Ga., remembered. “I wanted to be a naval aviator, but I wanted to go home even more.” Wilson enrolled at Tech in September 1945.

“There were servicemen all over the place,” he said. “Most of us still wore our uniforms because we didn’t have enough money to buy clothes, so the campus was a sea of khaki and blue.

Photos in the 1946 Blueprint support Wilson’s claim — 301 of the 360 seniors are pictured wearing a military uniform.

The postwar enrollments challenged Tech’s infrastructure, and administrators scurried to build everything from classrooms to dormitories. In his 1946 annual report to Gov. Ellis Arnall, President Blake Van Leer requested $533,154 — almost double the previous year’s budget — to accommodate the flood of GIs.

He noted that the request would have been much higher if not for the generosity of donors, including: $1.5 million from the Navy, $1 million in surplus property from the federal government, $400,000 from the Atlanta Public Housing Agency, $260,000 for seven temporary buildings built by the Federal Works Agency and $50,000 from the Alumni Association.

Social changes were even more

Veterans continued, page 2
Data reveal trends to help researchers build better e-mail filters

Jane Sanders
Research News

A database of more than 10 million spam e-mail messages collected at just one Internet "spam sinkhole" suggests that Internet service providers could better fight unwanted junk e-mail by addressing it at the network level, rather than using currently available message content filters.

Also, the research — conducted at Georgia Tech's College of Computing — identified two additional techniques for combating spam: improving the security of the Internet's routing infrastructure and developing algorithms to identify computers' membership in "botnets," which are groups of computers that are compromised and controlled remotely to send large volumes of spam. The findings are now directing the researchers' design of new systems to stem spam.

"Content filters are fighting a losing battle because it's easier for spammers to simply change their content than for us to build spam filters," said Nick Feamster, an assistant professor of computing. "We need another set of properties, not based on content. So what about network-level properties? It's harder for spammers to change network-level properties."

From 18 months of Internet routing and spam data collected in one domain, Feamster and doctoral student Anirudh Ramachandran have learned which network-level properties are most promising for consideration in spam filter design. Specifically, they learned that:
- Internet routes are being hijacked by spammers;
- they can identify many narrow ranges within Internet protocol (IP) address space that are generating only spam; and
- they can identify the Internet service providers (ISP) from which spam is coming.

"We know route hijacking is occurring," Feamster said, "but it's been done by a small, but fairly persistent and sophisticated, group of spammers who cannot be stopped using conventional methods."

Route hijacking works like this: By exploiting weaknesses in Internet routing protocols, spammers can steal Internet address space by briefly advertising a route for that space to the rest of the Internet's routers. The spammers can then assign any IP address within that address space to their machines. They send their spam from those machines and then withdraw the route by which they sent the spam. By the time a recipient files a complaint related to this IP address, the route is gone and the IP address space is no longer reachable.

"Even if you're watching the hijack take place, it's difficult to tell where it's coming from," Feamster explained. "We can make some good guesses. But Internet routing protocols are insecure, so it's relatively easy for spammers to steal them and hand them off to us to identify the perpetrators."

Feamster and researchers elsewhere are actively working to improve the security of Internet routing protocols, he added.

Better spam filtering will also result from a system, which Feamster hopes to design, based on collaborative, network-level filtering among ISP operators.

"Within the single domain that we are studying, it's interesting that you don't see the same IP addresses repeatedly being used to send spam to that domain," Feamster said. "So ISP operators need to be able to securely share information about IP addresses associated with spam."

charge of explaining how to apply for GI Bill benefits. Here I was just a kid sounding like a drill sergeant instructing a roomful of war veterans how to fill out their forms. It was very intimidating."

Ron Yeakle endured four months in a German prisoner of war camp after his bomber was shot down in 1944. Following his discharge from the Army in 1945, he enrolled at Tech.

"We felt like we had missed some of our life, so our idea was to get in school, do the work and get out as soon as we could," he said. "We took a lot of classes — 22 or 23 hours each quarter. That's where the term 'getting out' originated — we didn't think of it as graduating."

Yeakle said there was a shortage of classroom and dormitory space, so administrators found some very creative ways to deal with the problem.

Tech was the first school to offer low-cost housing — the barracks at Lawson Naval Air Station in Chamblee, now Peachtree-DeKalb Airport — for married veterans.

"It was very spartan, like you would expect a military barracks to be," Yeakle said. "For $35 a quarter, you got a kitchen, a bathroom and a living area. There was no refrigerator, just an ice box, and the city buses didn't run that far, so we were on our own for transportation."

The 1,514-member graduating class of 1950 was the largest in Institute history and by 1951 the postwar enrollment boom began to ebb. In six years, more than 14,500 veterans enrolled at Tech.

"The maturity and leadership of the veterans was mixed with the youth and brassiness of the civilian students," Blitch said. "It was a wonderful time to be at Tech."

"When you talk about space, people will roll their eyes and say, 'Oh, I don't know about that.' Frankly, I don't think rocket science is really that much harder than what the computer people are doing."

— Narayanan Komerath, a professor in the School of Aerospace Engineering, on the growing privatization of space exploration and travel.
Two named to receive honorary degrees from Tech

Elizabeth Campell
Institute Communications and Public Affairs

Georgia Tech has announced that Dr. Catherine Bréchignac and Mr. Cecil J. "Pete" Silas will receive honorary doctorate degrees at the university’s fall commencement ceremony in December.

"Both Dr. Bréchignac, a renowned scientist and scholar in the area of nanophysics, and Mr. Silas, a dedicated alumnus and former CEO of Phillips Petroleum, meet the highest standards that can be set for receipt of an honorary degree," said President Wayne Clough. "We are pleased to recognize both of them for their service to Georgia Tech."

Known within the international scientific community as a specialist in atomic physics working at the interface of nuclear and molecular physics, Bréchignac is the current president of the Centre National de la Recherche Scientifique (CNRS) in France, the largest and most influential scientific organization in Europe. Since the early 1990s, she has been a research collaborator with Georgia Tech faculty and recently has been instrumental in the establishment of a formal partnership between CNRS and Georgia Tech to engage in research of mutual interest.

In 2001, Bréchignac’s extensive work with Tech faculty led to her appointment as adjunct professor of physics and distinguished visiting scholar chair. Georgia Tech has been collaborating with the CNRS since 1998 when a Georgia Tech Lorraine-CNRS Telecom lab opened on the Georgia Tech Lorraine campus in Metz, France. Recently this relationship has been strengthened with the formation of an international partnership known as “Unite Miste Internationale (UMI)” between Georgia Tech and CNRS.

Silas received his undergraduate degree in chemical engineering from Tech before embarking on a business career at Phillips Petroleum that culminated with a decade of service as its chairman and chief executive officer. He has also been very supportive of the Institute, including service on the Georgia Tech Foundation and the Georgia Tech Advisory Board. In 1997, Silas chaired the National Campaign Steering Committee for the five-year Campaign for Georgia Tech, which began with a $300 million goal and raised more than $700 million. This honorary degree recognizes his outstanding career in the energy field, his lifelong commitment to community service and his dedication and service to his alma mater.

Both Bréchignac and Silas will join a select group of honorary degree recipients that include former President Jimmy Carter, electrical engineer Jack Kilby, Shirley Jackson, astronaut John Young and computer scientist Alan Kay.

Fall semester commencement exercises are scheduled for Dec. 15-16 in Alexander Memorial Coliseum.

Catherine Bréchignac and Pete Silas are being honored for their longstanding commitment to Georgia Tech’s mission.

IN BRIEF:

Committee seeks nominees for annual faculty awards

The Faculty Honors Committee solicits nominations of faculty members as candidates for recognition in seven categories, including a relatively new award category established to recognize faculty involved in guiding undergraduates through the research process.

Current members who have not received the same award in the past ten (10) years are eligible. The awards will be presented at the annual Faculty-Staff Honors Luncheon. For information on categories and requirements, visit www.facultyhonors.gatech.edu or e-mail bill.hunt@ece.gatech.edu.

Alumnus named commissioner of pro basketball league

Former Georgia Tech and NBA standout John Salley was named commissioner of the American Basketball Association (ABA) at the annual owners meeting in Indianapolis Sept. 29.

The league, a reincarnation of the original ABA that merged with the National Basketball Association (NBA) in 1976, boasts more than 40 franchises from such diverse markets as Beijing and Maywood, Calif. Many of those teams, however, are struggling financially — a situation Salley promises to reverse.

"We're in the entertainment business," Salley told sportsillustrated.com. "It's not how you sell it to people, it's what they're buying. People want a show, want to get out of their lives for two-and-a-half hours. During the Great Depression everyone was losing money except Charlie Chaplin."

Salley played basketball for the Yellow Jackets from 1982 to 1986 and was named to All-ACC teams in 1985 and 1986. He returned to Tech in 1987 to earn his bachelor's degree in industrial management. He was inducted into the Georgia Tech Athletic Hall of Fame in 1991 and delivered the undergraduate commencement address in December 2004.

He was picked in the first round of the 1986 NBA draft by the Detroit Pistons and played 12 years for five NBA teams — winning four championship rings.

GLC named official meeting facility of the Alumni Association

Since its opening in 2003, the Georgia Tech Global Learning Center has been a partner and host for alumni functions. This partnership continues now that the Center has been named the official meeting facility of the Georgia Tech Alumni Association.

As an affinity partner, the Georgia Tech Global Learning Center will host events during Homecoming and Family Weekend as well as four additional alumni events during the coming year.

"Building support for achieving the mission of the Alumni Association is always a priority for us," Joe Irwin, president of the Georgia Tech Alumni Association said. "Our alumni expect high-quality products and services from us, and the Global Learning Center certainly meets that expectation."

Awards & Honors

Associate Professor Jun (Jim) Xu (Computing) has been selected to received a 2006 IBM Faculty Award for making fundamental contributions to performance evaluation methodologies. The award is offered in recognition of the quality of faculty programs and their importance to industry.

Cited for, among other things, her role as director of Georgia Tech’s graduate program in digital media, the industry publication Next Generation recently named Professor Janet Murray (Literature, Communication and Culture) among the “Game Industry’s 100 Most Influential Women.”

The American Chemical Society’s Committee on Minority Affairs has selected the Georgia Tech Women in Chemistry Committee as the recipient of the Stanley C. Israel Regional Award for Advancing Diversity in the Chemical Sciences. This award will be presented at the organization’s regional meeting next month.

Professor Marie Thursby (Management) recently won the “Innovation in Pedagogy Award” sponsored by the Academy of Management’s Entrepreneurship Division. Thursby won for development of the Technological Innovation: Generating Economic Results (TIGER) program — a collaboration between Georgia Tech and Emory University that brings together graduate students to learn how to move technologies into the marketplace.

Assistant Professor Michael Gamble (Architecture) has received an award from the Atlanta chapter of the American Institute of Architects, taking first prize in the Sustainable Home Competition sponsored by Chois Community Housing, Southface Energy Institute and the Atlanta AIA. The house will be constructed in the Grant Park neighborhood in Atlanta. The entry can be seen at www.gp-architects.com/635Cam.htm.

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