

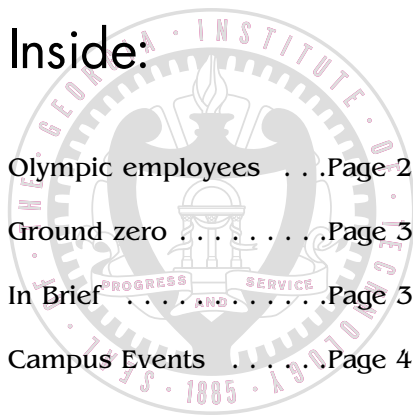
Inside:

Olympic employees . . . Page 2

Ground zero Page 3

In Brief Page 3

Campus Events Page 4



THE WHISTLE

FACULTY/STAFF NEWSPAPER

VOLUME 27, NUMBER 4 • JANUARY 28, 2002

THE GEORGIA INSTITUTE OF TECHNOLOGY

College of Computing Dean Peter Freeman to step down

Founding dean takes position with NSF

Bruce Brooks
College of Computing

Peter A. Freeman, dean of the College of Computing, met with the faculty and staff of the College on Jan. 25 to announce he was stepping down from that position effective May 5, 2002. After serving as founding dean of the College since 1990, Freeman will assume a position with the National Science Foundation (NSF) in Washington as assistant director for Computer and Information Science and Engineering (CISE). He will remain a member of the Georgia Tech faculty, on assignment to NSF.

In his remarks, Freeman told his faculty and staff it was a "bittersweet time."

"Serving as dean of the College of Computing at Georgia Tech has been the highlight of my career," he said. "We are blessed with faculty with great minds who push the boundaries of computing and who help integrate the discipline of computer science with many other academic and applied areas."

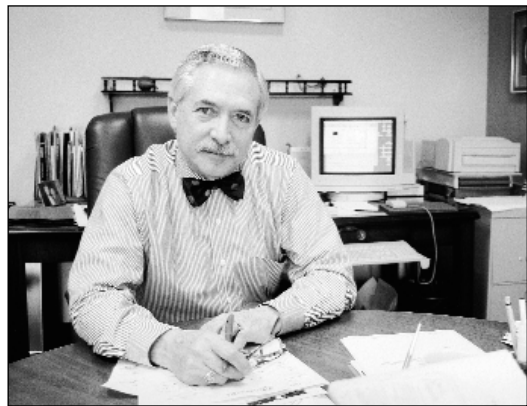
"The College of Computing will always be a part of me," he said, "and I'll miss working with the great faculty, staff, students and administrators both here at College of Computing and Georgia Tech on a regular basis. But, remember that you are the College. Carry on!"

President Wayne Clough said, "We are grateful to Peter Freeman for serving as the dean of our College of Computing during its first ten years. Under his leadership the College has grown dramatically and developed into one of the nation's best computing programs. His legacy includes an accomplished faculty, a top flight

student body, and a successful capital campaign that provided faculty chairs, student scholarships and private funding for the soon to be built Klaus Advanced Computing Technology Building. We are grateful to Peter and wish him the best in his new position."

Provost Jean-Lou Chameau added, "Peter has done a tremendous job at recruiting bright faculty who will carry his legacy. He also has done a tremendous job of raising much needed funds for expansion of the college. Peter is a great colleague, and I will miss him."

Freeman holds the only endowed dean's chair at Georgia Tech, the John P. Imlay Jr. Dean of Computing, established in 1999. Under his leadership, the College of Computing has become one of the largest computing



Dean Peter Freeman called the transition "bittersweet."

research and education groups in the country, as well as one of the top units at Tech. Enrollment in the College of Computing has grown from approximately 700 students to a current total of 1,865, increasing by more than 1,000 at the

Freeman continued, page 3

Addressing the human factors in home medical devices

Managing risk, improving design

Sean Selman
Institute Communications
and Public Affairs

Research conducted by psychologists at Georgia Tech shows that problems exist with the design of and instructions for various home medical devices — problems that could prove harmful to those who must strictly monitor their own health.

However, such problems can be corrected if manufacturers address the ergonomic and human-factor needs of these common products, according to investigators.

"Our review of the literature showed that many individuals have difficulty using home medical devices," said Professor Wendy

Rogers, director of the Attention, Abilities and Aging Laboratory within the School of Psychology. For example, many diabetics who use personal blood glucose meters often get error messages or insufficient information when they operate them, she said.

"In our study, we surveyed individuals and asked them what kinds of difficulties they have with their home medical devices," Rogers said. "The main goal was to figure out why people were having these difficulties and to use human-factors analysis to say not only, 'OK, people have difficulties,' but to show when they would have a difficulty, what kind of difficulty they might have and — most importantly — how could we minimize the likelihood that they would have an error."

Together with Professor Arthur D. Fisk, director of the Human Attention and Performance Laboratory within the School of Psychology, the researchers published their findings this past year.

"The U.S. Food and Drug Administration has recently mandated

that new devices will have human factors analysis," Rogers said. "We illustrate in our paper that human factors can help you predict where errors will be made and also prescribe things that could change the nature of errors — by design changes or by improvement in training."

Ultimately, their goal is to use ergonomics and human factors analysis to better understand how manufacturers might improve the designs and training tools associated with many kinds of home medical devices.

"Many different home medical devices have these same characteristics, and so the problems we identify in our paper studying blood glucose monitors could be generalized to other types of home medical devices," Rogers said.

Complex home medical devices
In their study, Rogers and Fisk asked

six people between the ages of 20 and 75 to use a common blood glucose monitor. In observing this practical test of the sugar-level meter, the researchers concluded that the device and its instructions were insufficient to guarantee safe and accurate patient-conducted readings.

The research team also surveyed 26 diabetics about how they used the machines. In this group, more than 70 percent said they had trouble with the meters while first learning how to use them, despite an average of 15 years of academic education.

Forty percent of these participants said they were not comfortable using one of the devices until they had used it three or four times. Most of them learned how to use the device on their own, and about one-third responded that a medical professional instructed them.

"We did an analysis of this device — which is supposed to be easy to use — and discovered it to be very complex," Fisk said. For example, he

Tests continued, page 2



Wendy Rogers

photo by Stanley Leary



Arthur Fisk

photo by Stanley Leary

“QUOTE—
UNQUOTE”

“VentureLab is putting together a lot of resources around campus, so that our faculty members will have a clear path to commercialization. It’s not that Tech hasn’t done this in the past, but we will be much more proactive and focused. And I think it will make a significant difference, especially in the number of \$20 million to \$30 million companies that are created.”
—Wayne Hodges, associate vice president for economic development and technology ventures, on helping faculty members recognize the commercial potential of research. (Atlanta Business Chronicle)

“That’s probably the quickest I ever got over a loss. Losses hit me hard; it takes me a little while to recover. But when you have something that’s exciting and different like this, you can move on.”
—Chan Gailey, Tech’s new head football coach, on his final game as offensive coordinator for the Miami Dolphins. (Atlanta Journal-Constitution)

Tech employees invited to work at Winter Olympics

David Terraso
Institute Communications
and Public Affairs

When Michael Edwards and Debbie Dorsey agreed to manage the Aquatic Center during the 1996 Olympics in Atlanta, they both thought it was the chance of a lifetime. Now, almost eight years later, the pair will again put their Olympic know-how to work at the 2002 Winter Olympics in Salt Lake City, Utah.

“It was an incredible experience here. I learned a lot and I’m really looking forward to being part of the Winter Games this year,” said Dorsey, aquatics director at the Student Athletic Complex.

The winter games will be Dorsey’s second and Edward’s third time to work behind the scenes at the Olympics. Edwards worked his first Olympics as a volunteer during the 1984 Summer Games in Los Angeles.

“I put my own time and my own money into it in ‘84 because I thought it would be the only Olympics I’d ever be able to be a part of,” explained Edwards, director of Athletic and Recreational Facilities Planning and Management.

No longer a volunteer, Edwards held the post of venue manager and Dorsey was his assistant venue manager in 1996 at the Aquatic Center, the site of the swimming, diving, water polo and pentathlon events.

This time Edwards and Dorsey will serve as sector coordinators for Utah Olympic Park, the site of bobsled, luge, nordic combined, ski jump and skeleton — also known as head-first luge — events.

It was their experience in managing the Aquatic Center during the



photo by David Terraso

Debbie Dorsey and Michael Edwards stand in front of the Aquatic Center, the site they managed during the 1996 Games. The Center is currently undergoing renovations for SAC II.

‘96 Games that prompted Salt Lake organizers to tap them for the winter games. And although the events this time are different, the skills it takes to manage them are similar. “It’s the experience and knowledge of event management that count. It involves crowd control, media handling, getting spectators in and out safely, transportation, concessions and merchandising. It takes a lot of patience,” said Edwards.

Edwards and Dorsey haven’t been told yet which of these sectors they’ll manage at the Olympic Park. They’ll have to wait until they arrive in Salt Lake City on February 1.

Despite the uncertainty, both Edwards and Dorsey say they can’t wait to begin their duties. “You get the Olympic bug,” explained Dorsey, “It’s very difficult to describe the experience if you haven’t had it. The magnitude is inconceivable. This

time around I’ll have an understanding of the magnitude of the events and the complexity of the job.”

The Olympic Park will be up and running 24 hours a day, seven days a week. And Edwards and Dorsey will be working six of those days each week, with only one day off. They’ll be taking vacation time from Tech during the Games and will be paid by the Olympic Committee.

“I enjoy working with all the incredible people, the volunteer staff, the athletes, coaches, the media, all the people it takes to make the Games great,” said Edwards.

And if by some chance they actually get to try one of the sports they’re managing, they both agree it would have to be the bobsled. “It would be the ultimate to go down the run,” explained Dorsey.



THE WHISTLE

Editor: Michael Hagearty
Published by Institute Communications and Public Affairs.

Publication is weekly throughout the academic year and biweekly throughout the summer.

The Whistle can be accessed electronically through the Georgia Tech web page, or directly at www.whistle.gatech.edu.

E-mail Whistle submissions to michael.hagearty@icpa.gatech.edu, or fax to Michael at 404-894-7214 at least 10 days prior to desired publication date. For more information, call 404-894-8324.

Cost/\$675 Copies/5,200

Institute Communications and Public Affairs
Wardlaw Center
177 North Avenue
Atlanta, Georgia 30332-0181

Georgia Tech is a unit of the University System of Georgia.

Tests, continued from page 1

and Rogers found that to perform an average test of a person’s blood sugar, a diabetic must perform between 30 and 40 steps in the proper order to get accurate results. If the machine needs calibration, or if a patient must use a new vial of test strips for the device, the number of steps can be higher.

The biggest problem with the devices, Rogers said, is a lack of feedback. If a test is done incorrectly, the machine studied did not let the patient know that there was an error in the test. Another problem is that some buttons on the machines have more than one use. And the number of steps it takes to complete a test is a problem: the more steps a consumer must take, the more room there is for errors.

“There are approximately 15 million individuals in the United States who have diabetes. Estimates are that about half of these folks are able to control their disease by home monitoring of their blood glucose,” she said. “So the potential of

these devices to improve the lives of individuals is huge.”

Ineffective support materials

The team’s research also shows that an instructional video included with the glucose meter in their study used vocabulary that may be too difficult for some people to understand. The research team designed a new video based on cognitive psychology, presenting the needed information, providing an outline of what an individual must do and reiterating the critical steps.

“(With the new video) we found that the young adults’ performance accuracy went from 50 percent to over 90 percent,” Rogers said. “More impressive than that is the fact that the older adults’ accuracy rate went from 25 percent to nearly 90 percent.”

What can be done?

Rogers said the purpose of this study was to illustrate the types of health-endangering problems people encounter with self-use medical devices in general. They want to

encourage developers to make changes that will make such gadgets safer. But, above all, Rogers said she wants people to know that it’s not their fault if they have problems with home medical devices.

“One big problem is that, if a product is being marketed as easy to use and an individual user has difficulty using that system, the person’s tendency is of course to blame themselves. That’s a major problem, because they’re less likely to think there is a problem with the meter,” Rogers said.

“My main take-home message is don’t blame yourself if you have difficulties using this system,” she said. “Get help, request more information, practice. Don’t be afraid.”

INNOVATIONS@GEORGIA TECH
INSTITUTE RESEARCH FEATURED IN MULTIMEDIA
This is the fourth article in an ongoing series focused on the research currently under way at Tech. A complete archive of stories with multimedia is available at www.innovations.gatech.edu/

Surveying ground zero



photo by Norris Scott

From left, Georgia Tech graduate students Prateek Goel and Scott Deaton are part of the team led by David Frost, a professor of civil engineering and director of the Georgia Tech Regional Engineering Program, collecting damage assessment data on the buildings surrounding the World Trade Center rubble.

In October, the National Science Foundation (NSF) awarded Frost a grant to collect and analyze data on structural engineering and damage assessment while debris was being removed. The information they gathered was through an advanced digital data system Frost developed for earthquake reconnaissance missions.

The focus of the assessment was to document the type of structure as well as specifics of damage incurred as a result of the Sept. 11 terrorist attacks.

The data will be used in engineering studies to help improve the structural integrity of the nation's buildings, utilities and other infrastructure during fires, earthquakes, explosions and other hazards.

Freeman, cont'd from page 1

undergraduate level and by nearly 120 at the graduate level. The faculty has also grown from 37 academic and four research faculty to 64 academic and 35 research faculty.

Freeman's leadership also helped bring to fruition the single largest outright gift in Tech's history. In 2000 Christopher W. Klaus donated \$15 million to the College for the new Advanced Computing Technology Building, currently in the design phase.

In addition to serving as dean, Freeman also served as

Chief Information Officer for the campus for three years during which time he led the campus networking project (FutureNet) in preparation for hosting the 1996 Olympics. As part of the campus leadership team, he was heavily involved in the recently completed Capital Campaign and the Yamacraw Economic Development Mission. In 1998, he chaired the Sam Nunn NationsBank Policy Forum on information security, which led to the creation of the Georgia Tech Information Security Center (GTISC), one of the first comprehensive centers in the

country focused on information security. He currently serves as acting director for GTISC.

Prior to coming to Georgia Tech, Freeman was visiting distinguished professor of information technology at George Mason University in Fairfax, Virginia, and from 1987 to 1989 he served as division director for computer and computation research at the National Science Foundation. He served on the faculty of the Department of Information and Computer Science at the University of California at Irvine for almost 20 years before coming to Georgia Tech.

Tech to renew old pigskin rivalries in 2002

Georgia Tech will face seven teams that played in 2001 bowl games in head coach Chan Gailey's first season on the Flats. The schedule is evenly split — six home games and six road games, with two open dates.

"I'm excited about this schedule," said Gailey, who took over as Tech's head coach this week following two seasons as offensive coordinator of the Miami Dolphins. "We've got some tough non-conference games. Brigham Young brings a

high-powered offensive team here, and we get to renew an old SEC rivalry with Vanderbilt. It's going to be an exciting year."

Tech's season-opening game with Vanderbilt (2-9 last year) on Aug. 31 will be the first meeting between the former Southeastern Conference rivals since 1967. The Yellow Jackets are 16-15-3 against the Commodores, who played each other for the first time in 1892, Tech's first year of intercollegiate football.

2002 Football Schedule (home games in bold)

Aug. 31	Vanderbilt
Sept. 7	at Connecticut
Sept. 14	at Clemson
Sept. 21	Brigham Young
Sept. 28	at North Carolina
Oct. 5	Wake Forest
Oct. 17	at Maryland [ESPN]
Oct. 26	Virginia
Nov. 2	at N.C. State
Nov. 9	Florida State
Nov. 16	Duke
Nov. 30	at Georgia

IN BRIEF:

Reducing transfer barriers

Students who want to transfer between a public technical college in the state and a University System of Georgia institution now may have an easier transition thanks to a new policy approved at a recent meeting of the Board of Regents.

Under an agreement between the Board of Regents and the State Board of Technical and Adult Education, certain **freshman-level core courses** in English and mathematics offered by Department of Technical and Adult Education (DTAE) colleges now are **guaranteed to transfer** to University System of Georgia colleges and universities throughout the state, and vice versa.

Known as the "Mini-Core Project," the articulation agreement is in line with the spirit of seamless education promoted by Governor Roy Barnes and his Education Reform Study Commission. The agreement was developed by joint committees of USG and DTAE faculty and staff.

"Today's action moves us closer to creating a seamless educational system in Georgia," said Daniel L. Papp, senior vice chancellor for Academic Affairs with the Board of Regents. "Our primary goal is creating a more educated Georgia. We want to eradicate the barriers that prevent Georgians from gaining a college education, and increase our state's educational attainment level. Easing transfer between the state's two post-secondary systems definitely supports that goal."

Defying definition

The fifth annual student-organized **Women's Leadership Conference** will be held February 22-23 at the Student Center. Themed "Defying Definition," this year's conference will include several major speakers and four workshop sessions. New this year will be an alumnae track geared to women already in the workforce. Nominations for faculty, staff, student and alumnae "Women of Distinction" are due February 9. Registration deadline is February 15. For more information, visit www.cyberbuzz.gatech.edu/wlc or call the Women's Resource Center at 385-0230.

Increasing undergraduate research

In support of President Clough's Undergraduate Education Initiative in his 2000 State of the Institute Address and his recent strategic plans for student-focused education given in his 2001 State of the Institute address (www.gatech.edu/2001/), the Office of the Vice Provost of Undergraduate Studies has announced its intention to launch a website. This website serves to collect and focus attention on the variety of **opportunities available for undergraduates to do hands-on research** at GTRI or in individual schools under the direction of a faculty member. The website is organized under Institute-wide Research Opportunities, which highlights programs that cut across disciplines as well as the many programs that are active within each school at Georgia Tech. For more information, refer to www.undergradresearch.gatech.edu.