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THE WHISTLE

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Computer program helps governments plan for pandemic

Megan McRainey
Institute Communications and Public Affairs

Your city has 48 hours to vaccinate every man, woman and child to prevent a dangerous pandemic. Where do you put the clinics, how many health care workers will you need and how do you get two million people to a finite number of emergency clinics?

The logistics of handling all those panicked people, health care workers, vaccinations, clinics and forms are dizzying. And while health departments have plans in place, it's very difficult to know how well those plans will perform when time is critical and the minutes needed to move patients to a large clinic or for a frightened patient to fill out a form could mean life or death for thousands of people.

Now researchers at Georgia Tech have developed a computer program, based on a clinical model created by the Centers for Disease Control and Prevention (CDC), to help state, city and county health care departments create and test more efficient plans for treating infectious illness, whether it's natural or man-made.

The program, called RealOpt and created by Eva Lee, a professor of industrial and systems engineering, will be installed over the next few months at health departments across the state of Georgia. While the program is still in the testing phase, it will soon be available free to any government health department that requests it.

RealOpt has been tested by the DeKalb County Health Department in Georgia, and the county ran a very successful anthrax drill last year. Lee used RealOpt to help DeKalb test and improve its existing bioterror preparedness plan. Health departments in 35 other states also have plans to test the program.

The program can be used to prepare for a possible outbreak, as well as for emergency re-assignment of health care workers within the clinic and between clinics during an actual outbreak. By being able to assess preparedness, health departments will have a more precise estimate of the resources and funds needed to treat communities before an actual outbreak.

In addition to its role in planning, one of RealOpt's significant advantages is its ability to process data in real time as the emergency treatment occurs. As patient flows fluctuate, the program can determine how to reallocate the facility's resources in a fraction of a second, sending more doctors or nurses to one station or more attendants to the paperwork processing area.

"Rapid analysis of scenarios not only allows for large-scale planning and preparedness, but also allows on-the-spot optimization to maintain the best resource allocation over time," Lee said. "As patients enter and progress through the clinic we can observe the flow and dynamically adjust the configuration as needed. This is also critical for response to catastrophic events, for example, if

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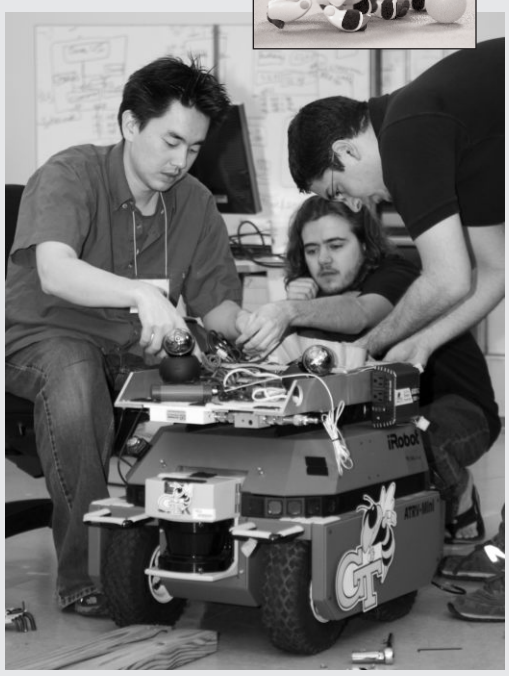
Tech team gears up for RoboCup



At the 2006 KUKA RoboCup U.S. Open, held last week at Georgia Tech, computing graduate students Yoichiro Endo, Victor Kovalev, and John Envarli prepare their search and rescue robot for the obstacle course. Designed to resemble an earthquake disaster zone, the robot's goal is to locate survivors.

Other events featured four-legged and small-size teams of robots playing soccer against competitors from other universities.

Next year, the College of Computing will host the international championship, RoboCup 2007.

Faculty support new summer reading program for incoming freshmen

Annual selection hopes to foster student-faculty discussions

David Terraso
Institute Communications and Public Affairs

New school, large classes, intimidating professors — the first days of college can be a difficult time for incoming freshmen. But thanks to an enterprising group of Tech students, the transition for incoming freshmen may get a little easier.

Students who join Tech's new summer reading program will be able to interact with faculty and enter into an intellectual exchange with them in an informal setting. The idea is to foster student-faculty interaction early into a student's academic career, while promoting curiosity outside of their field of study.

Faculty who are interested in participating in the discussions may attend an information session on Tuesday, April 25 at 11:30 a.m. in the Clary Theatre in the Student Success Center.

"We want to encourage student-faculty interaction right when students enter Tech, so that our new students get the message right away that faculty care about student's learning," said Paul Supawanich, industrial engineering senior.

"Many students are reluctant to ask questions when they don't understand something in class, don't feel like they can ask faculty about research opportunities, aren't comfortable asking (career) advice, and they miss out on a lot of learning, experience and opportunities because of that," said Joel Sokol, assistant professor in the School of Industrial and Systems Engineering and member of the book selection committee. "Getting incoming freshman used to interacting with faculty can significantly improve what they get out of Georgia Tech."

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Author praises Tech education as a national model

Elizabeth Campell
Institute Communications and Public Affairs

Thomas Friedman, renowned best-selling author and New York Times columnist, showcases Georgia Tech in the re-release of his most recent book, "The World Is Flat," originally published in 2005. Updated and expanded with more than 100 pages of new reports and commentary, the new edition features Tech's approach to education in the 21st century in the chapter "The Right Stuff."

"What the Georgia Tech model recognizes is that the world is increasingly going to be operating off the flat-world platform, with its tools for all kinds of horizontal collaboration," writes Friedman.

In "The World Is Flat," Friedman demystifies the new flat world that

Friedman continued, page 2

Faculty reviews multi-campus governance, athletics

Michael Hagearty
Institute Communications and Public Affairs

As Georgia Tech has expanded beyond local and even national borders, the issue of unified faculty governance and integration has become increasingly complex.

Last year, the Institute created the Committee on Multi-campus Faculty Development, Governance and Integration to help address this issue. Committee Chair Monson Hayes III, professor of Electrical and Computer Engineering and associate director of Georgia Tech Savannah, presented a report on the committee's findings at the Apr. 18 meeting of the Academic Senate and General Faculty.

The committee underscored a wide range of issues — from varying levels and quality of Internet access at different campuses to ensuring consistency in faculty hiring and promotion practices across continents — and raised a number of questions for the administration to address.

With hundreds of faculty and researchers working in locations other than Atlanta, the committee said efforts to make the campuses as cohesive as possible would help avoid a "branch campus" mentality and create "an environment conducive to scholarly work."

Though it was charged only with reporting on possible areas of concern, the committee did offer one recommendation: the establishment of a central office on the main campus that would serve to disseminate information and address faculty issues as they arise.

Prior to that report, Aerospace Engineering Professor Daniel Schrage delivered a presentation offering insight into his role as faculty athletics representative. Though it involves numerous advisory committees, the primary function of the position is to represent Georgia Tech with the Atlantic Coast Conference and the National Collegiate Athletic Association (NCAA).

Schrage, who assumed the role at the start of the year, said Tech's student-athletes were performing well in the classroom, as evidenced by its scores in the national Academic Performance Rate, a metric adopted by the NCAA and designed to improve graduation rates.

He briefly mentioned the recent NCAA sanctions imposed against the Institute, and that Tech was currently appealing that decision. Numerous changes have been made, and redundancies put in place, he said, to ensure that mistakes were not repeated.

Prevention can also be achieved with more channels of communication, and Schrage expressed his desire to get more faculty associated with athletic teams, working with coaches and students to head off potential problems. He said that anyone who wished to serve as an athletics liaison for a particular team should contact him.

When asked why Tech chooses not to offer more team sports, Schrage cited revenues. At most colleges, the only sports that generate revenue are football and basketball, often funding other programs. Schrage said he believed a women's soccer team would be an attractive offering for prospective student-athletes, but because Tech's athletic association operates on relatively small margins, adding non-revenue generating sports was not feasible at this time.

In other business, Mary Ann Ingram, who chairs the faculty committee on Welfare and Security, informed the audience of the committee's intention to protest the 5 percent increase in parking fees for the upcoming year. The committee, charged with review and advisement on the policies and procedures governing numerous campus functions, recommended a 2 percent increase as a compromise.

Georgia Tech

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The program is modeled after programs at other universities: each year incoming students are notified of the current book selection through a letter from the administration. Information about the book will also be handed out at FASET, and the Georgia Tech bookstore will also feature the book in displays throughout the summer. Once the semester begins, one lecture in GT 1000 will be dedicated to discussion of the book. Discussion sections led by faculty will also be held in the residence halls and in the library.

Although the program may seem to be an obvious choice for liberal arts majors, it's aimed at all students, including engineers.

"Communication skills are critical for engineers and this program will hopefully sharpen them," said Larry Jacobs, associate academic chair in the School of Civil and Environmental Engineering and member of the book selection committee. "It is important to put engineering in a societal context, especially when considering a range of alternative solutions. It should help in the transition from high school to college, and hopefully improve their critical thinking skills."

The inaugural selection is the Pulitzer-prize winning "Guns, Germs and Steel," by Jared Diamond.

"We looked at a lot of options before settling on this book," said Sokol. "The reason it was chosen is that it relates science and technology issues to big-picture consequences, contains a lot of jumping-off points for insightful discussion and conversation, and is generally an interesting book to read."

Friedman, cont'd from page 1

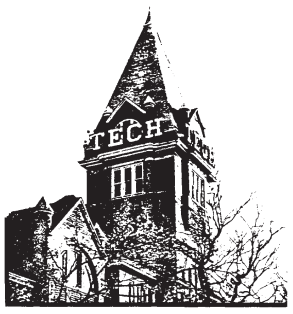
technology, communication and increasing globalization are creating. In the chapter "The Right Stuff," Friedman extensively quotes President Wayne Clough and describes how Tech has worked over the last 10 years to attract and retain students with more wide-ranging interests such as music and film, with the thought that these students are more flexible and able to adapt and work across disciplines.

According to Friedman, "...very few presidents of premier technology universities boast about their tubas as much as their test tubes. But Clough has reason to boast, because my guess is that by making Georgia Tech sing — and by making other user-friendly additions to the undergraduate teaching system, and by making education overseas easily available for Georgia Tech students — he is producing not just more engineers, but the right kind of engineers."

"Tom Friedman understands like few others how the world is changing around us and how important technologically savvy graduates have become to our nation. Georgia Tech shares his conviction and appreciates the validation he has given to our efforts to create an educational experience that prepares our students for success in an era that demands flexibility, creativity, experimentation, and teamwork across traditional boundaries," says Clough.

Friedman continues his observations, sharing conversations with Rich DeMillo, dean of the College of Computing, and Merrick Furst, associate dean of the College of Computing. Friedman highlights the College's re-design of the computer science major. The new curriculum features nine so-called "threads" that combine computing with another field such as media, information or people, to produce graduates with broader knowledge and experiences than the traditional set of computer science skills.

Friedman has won the Pulitzer Prize three times for his work at The New York Times, where he serves as the foreign affairs columnist. He is the author of three previous books, all best-sellers.



When the Whistle Blows: Georgia Tech remembers

Julie Chlopan
Undergraduate student

Delores Dotson
Housing

Wilson Porter
Housing

Charles Richardson
Transportation & Parking

Ilia Vassiliev
Chemistry & Biochemistry

Daniel Compton
Undergraduate student

Steven Kudravi
Biology

Judy Ramsey
Aerospace Engineering

George Trice
Facilities

New software system for academic advising planned

Administrative units may also see benefit

Michael Hagearty
Institute Communications and Public Affairs

Enthusiasm for a new centralized software program is likely to spread once it is launched and people realize its many uses.

The program, Business Objects Crystal Enterprise, was selected by the Offices of Information Technology and Undergraduate Advising and will offer academic advisors and business departments improved access to information and reporting tools.

Dana Hartley, who directs Tech's undergraduate advising program, initiated the search several months ago. That's because FACTS, the software that currently enables academic advisors to review student data, is no longer being supported, increasing the likelihood that system compatibility issues will render it defunct in the near future.

Hartley said the new program will be as straightforward as FACTS and provide advisors access to the same data as before.

"Our goal is to have this new system be as intuitive as FACTS is," she said.

But while the impetus for purchasing the software was as a replacement for FACTS, Hartley and her team found other features, such as the ability to schedule reports and receive alerts, make it useful for those writing reports and performing database queries.

The software is not unfamiliar to many departments who use Crystal Reports, now owned by a new company. But OIT is recommending that departments no longer purchase individual client licenses. When Tech completes its implementation, Crystal will be accessible via a Web-based interface, giving OIT centralized management of the software and allowing users to perform work functions with the most up-to-date program available.

Moreover, because it is compatible with BANNER, Peoplesoft and other database querying, Hartley said she believes the software has a great deal to offer administrative units interested in using it for their own development.

"This will be a powerful tool for business units on campus," she said. She invited anyone with questions to contact her (dana.hartley@carnegie.gatech.edu) for more information.

Helen Grenga, Tech's first female professor, dies

On April 14, Helen Grenga, the first full-tenured female engineering professor at Georgia Tech, died. She was 68.

Helen Grenga, in 1995

Grenga's appointment to metallurgy professor in 1968 opened the door to many more distinguished women faculty members and students at Georgia Tech.

While she came to Georgia Tech as a postdoctoral fellow in chemistry, Grenga retired a professor and administrator. During her time at Tech, Grenga held several administrative positions on campus, including director in the Office of Graduate Studies and Research.

She was secretary, vice president and then president of the national Society of Women Engineers (SWE) in addition to being longtime faculty advisor for the student chapter of SWE. She also served as professor emeritus in the School of Materials Science and Engineering.

At Georgia Tech, she held the office of president of Sigma Xi and Phi Kappa Phi. She was a recipient of numerous awards, including the prestigious Georgia Tech ANAK Faculty Award and the Georgia Tech Women's Leadership Conference's Women of Distinction Outstanding Faculty Member Award.

Grenga obtained her bachelor's degree in chemistry in 1960 from Shorter College and her doctoral degree in physical chemistry from the University of Virginia in 1967. She was employed by the Food and Drug Administration for a few years until she began her career in academia.

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one treatment site collapses."

RealOpt also includes an automated facility-layout drawing tool that allows health care workers to design and analyze their own clinic layout in response to various emergency situations, such as anthrax, smallpox, flu pandemic or natural disaster.

Lee continues to add to RealOpt's capabilities, and is currently adding a disease propagation component to the system. The addition would help to analyze the disease's spread within treatment sites and possible ways to halt or minimize the spread. It will also determine how to redirect patients should one center need to be quarantined or closed to prevent further spread of a disease.

IN BRIEF:

Board of Regents approve fixed tuition policy

Beginning this fall, new freshmen enrolling in the University System of Georgia's 35 colleges and universities will pay a guaranteed tuition rate aimed at providing tuition stability. New students entering the System's four-year universities will pay a guaranteed rate for four years.

The new tuition policy, as well as mandatory student fees and the University System's Fiscal Year 2007 budget, was approved last week by the Board of Regents.

The guaranteed tuition plan — a first in the University System's history — will fix tuition for four years at the System's research universities at $1,946 per semester for new, incoming students.

"The combination of guaranteed tuition for new students and modest tuition increases for existing students reflects the System's commitment to maintaining affordable public higher education," said Davis.

"We have just learned of this new policy and need time to consider its consequences for Georgia Tech," said Jim Fetig, assistant vice president for Institute Communications and Public Affairs. "On initial examination, we are concerned it does not address our cost structure as a major technological university and will reduce our flexibility to address unforeseen consequences and increases in costs in the future."

BC program reaccredited

The Building Construction Program in the College of Architecture recently received reaccreditation from the American Council for Construction Education (ACCE). The reaccreditation, announced at the ACCE Executive Board Meeting in San Diego in February, is for a maximum duration of six years.

"As one of the oldest and highly regarded accrediting bodies, ACCE only accredits the nation's best construction programs," said Roozbeh Kangari, director of the Building Construction Program. "It's a reflection on the quality of our students, faculty and staff, and helps the BC Program maintain its reputation as producing top-notch graduates and offering an extremely innovative curriculum."

Ovarian Cancer Institute receives $100,000 grant

The Ovarian Cancer Institute (OCI) will receive a $100,000 matching grant from Golfers Against Cancer and the National Cancer Coalition. The gift was announced at a presentation at the Petit Institute for Bioengineering and Bioscience last week.

The OCI is headed by John McDonald, professor and chair of the School of Biology, and Benedict Benigno, a noted Atlanta gynecologic oncologist. The Institute is striving to develop the first diagnostic test for ovarian cancer.

"Over the last year, we have made remarkable progress in our research efforts to establish a reliable and early diagnostic test for ovarian cancer, as well as in the development of novel and effective therapeutic treatments of the disease," said McDonald. "The funding we are receiving will be used to further this progress and bring us to the point where the results of our research will begin to have tangible benefits at the clinical level."