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THE WHISTLE

FACULTY/STAFF NEWSPAPER

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THE GEORGIA INSTITUTE OF TECHNOLOGY

Regional Innovation Summit plans for era of globalization

Michael Hagearty
Institute Communications
and Public Affairs

An ambitious plan to help the South adapt to the forces of globalization was initiated at the conclusion of the first regional innovation summit, held last week in the Global Learning and Conference Center.

More than 200 leaders from academia, industry and government participated in the one-day summit, which reviewed findings from the National Innovation Initiative and its implications for the region while fomenting strategies that will help local economies prepare to compete in the burgeoning global economy.

In his remarks, Governor Sonny Perdue underscored why conversations such as these are vital to the

region's long-term economic health. The traditional advantages of the South — cheap land, labor and energy — are no longer sufficient incentives when the competition resides in Europe or Asia, he said.

Hosted by President Wayne Clough, BellSouth CEO Duane Ackerman and Council on Competitiveness President Deborah Wince-Smith, the summit was an opportunity to focus on the means for creating an environment that supports innovation. In a joint newspaper editorial, they cited three factors of primary importance: talent, investment and infrastructure.

"Picking up the pace of American innovation will be the single most important factor in our economic success in the 21st century," they wrote. "Our ability to do that depends on

Innovation continued, page 3

Coming together to address a global challenge



At last week's Innovation Summit, Oak Ridge National Laboratory Director James Roberto listens to University of North Carolina President Molly Corbett Broad describe the plans for a new, 160-acre research campus in Kannapolis, NC, to be built on the site of a former textile mill. Through a unique blend of philanthropy, government, education and industry, the campus will provide state-of-the-art research and business incubator facilities, as well as housing, retail options and a magnet school for girls who excel in math and science.

Multidisciplinary group studies nature's design for inspiration

Jane Sanders
Research News

Copying the ideas of others is usually frowned upon, but when it comes to the work of Mother Nature, scientists are finding they can use nature as a template.

An interdisciplinary group of scientists and engineers at Georgia Tech recently formed the Center for Biologically Inspired Design (CBID) with the goal of capitalizing on the rich source of design solutions present in biological processes. The researchers believe nature can inspire design and engineering solutions that are efficient, practical and sustainable, and thus have the potential to greatly enhance new technologies, materials and processes.

"Biology can be a powerful guide to understanding problems in design and engineering," said Associate Professor of Biology Marc Weissburg, CBID co-director. "In comparative physiology, we teach that every animal has to solve a particular problem to survive, so every animal is a

design solution for a particular problem.

"They can provide solutions for more efficient manufacturing and design of materials with new capabilities, for example. These are things the biological world has solved, and if you study them, you have the opportunity to apply that knowledge in the human sector. You can also extend that reasoning to ecological processes."

Formed this past summer with a three-year internal seed grant, CBID's mission is to promote interdisciplinary research and education at Georgia Tech in biologically inspired design. CBID researchers also want to communicate to government and industry officials that nature can provide unique design solutions for the problems they must address.

The idea for the center began with discussions between Biology Professor Jeannette Yen and Weissburg. Weissburg's interest grew out of his research for the Office of

CBID continued, page 3

Federal grant enables Tech to train hurricane recovery workers

Jane Sanders
Research News

The U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) has awarded a one-year, \$400,000 training grant to the Georgia Tech Research Institute to help train workers involved in cleanup and rebuilding in Gulf Coast areas damaged by hurricanes Katrina and Rita.

This is the fourth and the single largest Susan Harwood Training Grant awarded to the Georgia Tech Research Institute (GTRI) in the past three years.

The grant is funding GTRI researchers to develop and provide training materials and conduct training sessions addressing occupational and safety health hazards that may be encountered by disaster recovery workers, supervisors and employers.

The training — expected to begin by mid-November — will target those providing skilled support services, site clean-up services, and recovery activities, including the rebuilding and

reconstruction of the damaged areas.

"We'll be going out there with mobile training units, coordinating our locations with OSHA and the Federal Emergency Management Agency," said Dan Ortiz, chief of the Occupational Safety and Health Division in GTRI's Health and Environmental Systems Laboratory. "Our approach in the disaster areas will have to be different than what we've done before. For example, electricity may not be available in some areas, so we'll do demos and distribute one-page technical guides instead of giving PowerPoint presentations."

Ten GTRI employees — including Art Wickman and Thomas Dean, who conducted training for workers cleaning up after the World Trade Center attack — will form teams that rotate in and out of the disaster areas for the next six months. Senior research engineer Paul Schlumper will direct the project.

First, they will provide training in Mississippi, which is part of GTRI's

Grant continued, page 3

QUOTE UNQUOTE

"The need that led to the creation of the program at Clark Atlanta has not been fully met or addressed. Apart from educating more black engineers, there's a need for our people to develop the ability and the skills to run technical institutions that will not be met by [Georgia] Tech or any other majority school."
—School of Industrial and Systems Engineering Professor Augustine Esogbue, on Clark Atlanta University's intention to eliminate its engineering program as of May 2008.
(Associated Press)

Enrollment rising in MBA dual degree program

Brad Dixon
College of Management

Dominic DePasquale's search for the right graduate school was greatly simplified by how few institutions offered what he wanted — the ability to earn an MBA and master's degree in aerospace engineering at the same time.

According to the Graduate Management Admission Council, only 2 percent of the approximately 1,400 MBA programs in America offer a dual-degree program of any kind. While some schools have only recently begun offering this option as student demand for competitive edge grows, the College of Management has had a dual-degree program for more than 20 years.

Through the business school's Technology Leadership Program, which is rapidly growing in popularity, students like DePasquale can earn two graduate degrees almost as fast as it takes to earn one. The MBA can be paired with a degree from any other graduate program at Tech.

DePasquale saw the doors that having two graduate degrees could open while working in the aerospace industry for two years prior to starting at Tech. "It's not hard for an aerospace engineer to rise as a technical manager, but to move into business operations and development, a background in business is very useful," he says. "It's rare that you find people strong in both areas."



Dominic DePasquale is among the growing trend of engineers who also want a background in business.

Though DePasquale knew from the get-go that he wanted to earn two degrees simultaneously, many master's and doctoral students don't learn of the dual-degree option until after they've begun their graduate studies, says Paula Wilson, director of MBA admissions at the College of Management. Some decide to add the MBA to their agenda when they learn that they can earn both degrees in seventy to seventy-six credit hours versus the ninety-plus hours required if the degrees weren't consolidated.

"Several years ago, we would enroll only four or five dual-degree students a year," Wilson says. "Today a third of our MBA students are pursuing dual degrees."

Ricardo Campbell was halfway through earning his master's degree

in physics at Tech when he realized he was more interested in technology-related entrepreneurship than conducting physics research professionally. For him, enrolling in the MBA program was the way to go.

"A lot of people think physics and business are a strange mix," says Campbell, who earned his master's in physics in May 2004 and is due to finish his MBA in December. "But IBM saw the value and told me it's a great combination."

After interning at IBM last summer, he accepted a full-time position that he'll start after graduation. Campbell, who focused on nanomaterials while in the physics program, will continue to draw upon his scientific background as he helps IBM explore new business opportunities as a member of the company's market intelligence division.

"A large part of my job surveying the marketplace will involve looking at companies who are very technical in nature and being able to understand their end products," he says. "Having wonderful business skills to complement my technical education is a tremendous asset going out into the workforce."

For more information...

MBA dual degree programs
www.mgt.gatech.edu/dual



THE WHISTLE

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

\$1 million gift to support technology transfer graduate program

More students will be able to learn about the challenges of commercializing new technologies, thanks to a \$1 million gift recently made to the Technology Innovation: Generating Economic Results (TI:GER) program.

Warren L. Batts, who earned his bachelor's degree in electrical engineering at Tech in 1961, made the donation. Having retired as chairman of Premark International and Tupperware Corp., Batts was drawn to TI:GER by his interest in technology transfer.

Housed in the College of Management, TI:GER is a collaboration between various Georgia Tech colleges and Emory Law School that brings together management, economics, law, science and engineering

graduate students in the classroom and research lab to learn how to move technologies into the marketplace.

"In a very short time, TI:GER has amassed an extremely impressive track record for commercializing important new technologies," Batts says. "Our commitment to the program is designed to expand the number of graduate students participating in TI:GER, thereby expanding the number of new products coming to the marketplace, products that vastly improve the quality of human life. I can't think of a better use for these funds."

Acceptance into the two-year TI:GER program, which now includes 14 student teams, is highly competitive. "There are currently four times

as many doctoral students interested in the program than we have funded slots for," says Professor and TI:GER Executive Director Marie Thursby, who created a similar program at Purdue University before coming to Tech.

"This wonderful gift will allow us to bring in more talented students to work on these critical issues," she says. "We are very grateful for (Batts's) support and his confidence in our work."

For more information...

Technological Innovation: Generating Economic Results
www.tiger.gatech.edu

Two Yellow Jackets drafted in basketball developmental league

Former Georgia Tech basketball stars Will Bynum and Luke Schenscher, key cogs in the Yellow Jackets' run to the national title game in 2004 and in 48 wins over the past two seasons, were drafted into the National Basketball Developmental League last week.

Bynum was taken in the first

round by the Roanoke Dazzle, while Schenscher went in the second round to the Fort Worth Flyers.

Bynum had signed a free agent contract with the Boston Celtics following the NBA draft in June, and was cut two weeks ago. Schenscher participated in training camps with the Denver Nuggets and Sacramento

Kings before being released in the Kings' final cuts.

B.J. Elder and Anthony McHenry, who also finished their Tech careers last year, are playing for Giessen, Germany, and Leicester, England, respectively. Point guard Jarrett Jack is with the Portland Trail Blazers in the NBA.

Innovation, cont'd from page 1

whether we will have the talent to compete globally, whether capital will flow freely to our ideas and businesses, and whether we are quick enough to reform policies that support innovators — from our aging healthcare system to our outdated communications laws.”

By playing to its strengths — a first-rate education system, an adaptive environment and a philanthropic culture, among others — the United States is in the best position to retain its competitive advantage. But with new challenges ahead, excellence requires constant vigilance.

Panelists from academia spoke passionately about the need to develop talent at home with better math and science education at the K-12 level. At the same time, they said, it is imperative

that the government relax restrictive immigration laws on international students wishing to remain in the United States after earning academic degrees.

Industry leaders agreed, and acknowledged their role in the effort. IBM Executive Vice President Nicholas Donofrio said business should be in a “joint stewardship” with academic institutions to demand that government and industry invest in more basic science research and development.

At the close of the session, Southern Growth Policies Board Executive Director Jim Clinton announced the Southern Innovation Initiative. Chaired by Gov. Perdue, the project will solicit industry, governmental and academic expertise for developing an innovation plan based on the region’s unique strengths. A report is expected during the Board’s annual meeting next June.

CBID, cont'd from page 1

Naval Research on understanding olfactory guidance in crabs. The Navy was interested in this process because it wanted to build autonomous devices with a similar capability, he explained.

Then, earlier this year, Yen, Weissburg and Industrial and Systems Engineering Professor Craig Tovey studied a biomimicry expert for 10 days in Costa Rica.

“We wanted to see how nature does things like gathering and transporting energy, and then see if we can translate those processes for human applications,” Yen said. “Georgia Tech is a great place to do this kind of research.”

After this experience, the idea for the center developed further with the help of a biological metaphor — that of an “invasive” species, with the Center as the new species and Georgia Tech as the established community that is productive and successful.

“Invasive species can have a negative connotation, but we’re not talking about disrupting the community,” Weissburg explained. “We’re talking about augmenting it and adding to its functionality and activity. We used the analogy of a new species trying to fit into a community as a way to think about what our center could do to increase the productivity of the Tech ‘ecosystem.’”

As CBID encourages interaction among its initial 17 members, Yen expects an increase in biomimetic research — that is, research in

Current CBID projects

- Associate Professor of Mechanical Engineering **Minami Yoda** is developing an auditory retina based on the fish ear.
- School of Materials Science and Engineering Professor **Ken Sandhage** and School of Chemistry and Biochemistry Assistant Professor **Nils Kröger** explore nanostructure synthesis via the self-assembled, biomineralized template — the marine diatom.
- Industrial and Systems Engineering Professor **Craig Tovey** is designing Web-hosting optimization techniques based on the foraging strategy of honey bees.
- Assistant Professor of Applied Physiology **Young-Hui Chang** and Assistant Professor of Biomedical Engineering **Lena Ting** use neuromechanical control principles derived from animals to engineer prosthetics and robots.

biologically inspired design. Already, however, biomimetic research projects are underway in biosensing, materials design, systems organization and “green” technology (see sidebar, above).

Yen noted that biomimetry even offers inspiration for the way students — and faculty — learn. “Like animals, we can learn by playing,” Yen explained. “We’re looking to nature as our template.”

Grant, cont'd from page 1

territory for the OSHA-sponsored work and disaster site training it has done since 1978. Then teams will move into Louisiana and Texas and coordinate with their counterparts there, Ortiz explained.

“Work zone safety and fall protection for people who are working on roofs is OSHA’s top priority for us,” Ortiz noted. “Our concern is that in the zeal to remove debris and restore buildings, workers and employers will take shortcuts. We want to have resources out there to make sure workers have the proper protective equipment and knowledge of environmental hazards.”

Topics that GTRI training will cover include: electrical and electrocution hazards, hand and power tool safety, biological hazards, chemical and respiratory hazards, confined space hazards,

heat stress, ergonomic considerations, and hazardous materials and waste.

GTRI experts hope to reach thousands of workers, some of whom will have language and literacy barriers, Ortiz said. Thus, they will provide training and written materials in Spanish and use symbols and other graphics to explain concepts.

“We suspect that a high percentage of the workers will be people whose only language is Spanish,” Ortiz added. “So we will have the assistance of a Spanish-speaking consultant. We’ll adapt our materials as we need to in order to meet the needs of these workers.”

For more information...

Health and Environmental Systems Laboratory
www.gtri.gatech.edu/hesl

IN BRIEF:

Flu shots available Nov. 21

Georgia Tech Health Services will begin administering flu shots to faculty and staff on Monday, Nov. 21. No appointment is necessary. Shots will be given Monday through Friday, 8 a.m.-noon and 1-4 p.m. at a cost of \$10. For more information, call 894-1420 or visit www.health.gatech.edu.

Sciences names associate dean

School of Mathematics Professor Evans Harrell has been tapped by College of Sciences Dean Gary Schuster to serve as the College’s new associate dean. A faculty member of 20 years, Harrell most recently served as the School’s graduate coordinator.

He fills the position vacated by Anderson Smith last month after being named vice provost for Undergraduate Studies and Academic Affairs.

International Education Week

Georgia Tech and the Office of International Education celebrate International Education Week 2005 with a wide range of internationally focused events throughout campus, such as concerts, team trivia and lectures. Events kick off on Nov. 11 and continue through Nov. 17. For more information, visit www.oie.gatech.edu/iew.

Winter Break service trip

The Georgia Tech Office of Community Service and Volunteer Mobile have put together a December service trip to repair and rebuild homes for those in Mobile, Alabama.

Mobile County Long-Term Recovery, coordinated by Volunteer Mobile, is helping elderly, disabled and low-income families replace roofs, make minor repairs and rebuild homes destroyed by hurricanes.

The trip is planned for Dec. 18-22. For more information or to volunteer, visit www.service.gatech.edu.

Volunteers needed for FIRST LEGO League Challenge

Student, faculty, staff and alumni volunteers are needed to assist at the State of Georgia FIRST LEGO League Challenge, to be held on Saturday, January 14, 2006 from 7 a.m. - 4 p.m. at Tech’s Campus Recreation Center. The School of Electrical and Computer Engineering and the Center for Education Integrating Science, Mathematics and Computing are co-hosting this event.

FIRST (For Inspiration and Recognition of Science and Technology) is an organization that was founded to inspire interest in science and engineering among young people. The 2005-06 Challenge theme is “Ocean Odyssey,” which gives students, aged 9 to 14, a chance to build and program a robot that can take action to ensure the health, diversity, and productivity of the world’s oceans.

Volunteers are needed to serve in a variety of positions. Additional details may be found at users.ece.gatech.edu/~jeff. For more information, call 894-4770 or e-mail jeff.davis@ece.gatech.edu.

C A M P U S E V E N T S

Art & Culture

Nov. 9-12

DramaTech Theatre performs its fall musical, “West Side Story,” at 8 p.m. Additional performances will be held Nov. 17-19. For more information, visit www.dramatech.org.

Nov. 11

The Ferst Center welcomes singer and artist Laurie Anderson for an 8 p.m. performance. For tickets and information, visit www.ferstcenter.org or call 894-9600.

Nov. 12

The Ferst Center welcomes the Munich Symphony Orchestra, led by conductor Philippe Entremont, for an 8 p.m. performance. For tickets and information, visit www.ferstcenter.org or call 894-9600.

Brown Bags/Conferences/Lectures

Nov. 8

Mechanical Engineering Professor Peter Hesketh is the featured speaker for the monthly Nano@Tech Volunteer Group, held at noon in room 102A of the Microelectronics Research Center. He will discuss “Microfabricated Electromechanical Valves for Miniature Fluidic Systems — Nanowire Alignment and Miniature Gas Chromatographs.” To register, e-mail paul.turgeon@mirc.gatech.edu or call Diana Palma at 894-1541.

Nov. 8

The Materials Council Seminar Series continues with M.I.T. Professor Moungi Bawendi on “Semiconductor Nanocrystals: Science and Applications,” at 3 p.m. in room 185, Love Building.

Nov. 9

GT ADVANCE and the Center for the Study of Women, Science, and Technology present “Advice from Successful GT Women,” a cross-college lunch and panel discussion, at noon in the Student Center Commons. Lunch is provided. To attend, e-mail angela.shartar@oars.gatech.edu.

Nov. 15

The Computing Science and Systems Division and the School of Aerospace Engineering host a distinguished lecture featuring Patrick Cousot, computer science professor at the École Normale Supérieure in Paris, France, on “Static Program Verification by Abstract Interpretation,” at noon in the TSRB Auditorium. For more information, e-mail shanita@cc.gatech.edu.

Nov. 15

The Materials Council Seminar Series continues with University of Texas at Dallas Professor Bruce Gnade on “Materials and Processes for Flexible Electronics,” at 3 p.m. in room 185, Love Building.

Nov. 15

The annual Tennenbaum Lecture will be given by Pete Peterson, senior chairman and co-founder of the Blackstone Group, on “The Tri-Deficits: What They Are and Why They Matter,” at 4:30 p.m. in the Tennenbaum Auditorium.

Nov. 15

The Georgia Tech Information Security Center (GTISC) will host the Wireless Security Summit at 10 a.m. in the Global Learning and Conference Center. For more on the Summit and its participants, visit www.gtisc.gatech.edu.

Nov. 15

The annual Carreker Distinguished Lecture will be delivered by R. Stanley Williams, director of the

Quantum Science Research Group at Hewlett-Packard Laboratories, on “Defect Tolerant Nanoelectronics,” at 3:30 p.m. in the Van Leer Auditorium.

Faculty/Staff Development

Nov. 16

The Office of Organizational Development sponsors a free brown bag featuring former athletic director Homer Rice on “Leadership Fitness: Developing and Reinforcing Successful, Positive Leaders,” in room 308, Savant Building. To register, visit www.trainsweb.gatech.edu.

Nov. 17

The Center for the Enhancement of Teaching and Learning’s Faculty Development Series continues with “Enhancing Teaching throughout the Faculty Career at Georgia Tech,” at 11 a.m. in the Library’s Wilby Room. Lunch is provided to those who register by e-mail to clint.lyle@cetl.gatech.edu.

Miscellaneous

Nov. 14 - Dec. 19

The annual Georgia Tech Best Practices Challenge begins. Applications will be accepted from Nov. 14 until Dec. 19. For information on criteria, awards and entry forms visit www.orgdev.gatech.edu/bp or call 894-1065.

Nov. 15

The deadline to submit Fall semester applications for both the TAP and STRAP tuition assistance programs. Send applications to Kimberly Porter in the Office of Organizational Development, mail code 0206. For more information, call 894-2249 or visit www.orgdev.gatech.edu/tuition.

E-mail calendar events to editor@icpa.gatech.edu.

C L A S S I F I E D S

APPLIANCES

Jenn-Air 30-inch electric downdraft Cooktop. Ceramic surface, 4 burners. Excellent condition. \$300. E-mail phurst62@mindspring.com or call 770-509-7300.

AUTOMOBILES

1990 Toyota 4-Runner. Excellent condition, 199K miles, 6-cylinder engine, 4WD fully loaded. \$3,500. E-mail mark.sanders@gmail.com or call 404-373-7100. Pictures available. Great first vehicle for your child.

2001 Ford Taurus four-door sedan, all power. Radio and CD player, 40K miles, \$7,500. Call H. T. Marshall at 404-377-6662 or e-mail htmarshall@earthlink.net.

2004 Nissan Murano SL. Copper exterior, charcoal interior, 26K miles, air bags ABS, 6-disc CD, sunroof, Xtronic CV transmission, 20+ mpg, excellent condition, \$24,995. E-mail sabrebiker@sprintpcs.com or call Sean, 678-895-8096.

COMPUTERS

IBM Thinkpad42. Like new, still under warranty. 512MB RAM, 30GB hard

drive, Mobile Centrino technology. \$950 OBO, \$400 less than regular price. Call 770-630-2727.

FURNITURE

Oval, solid cherry Queen Anne dining table w/2 leaves & 6 upholstered chairs. Overall excellent condition; table top in fair shape; one chair seat needs replacing. \$700 for all. Call 894-3113.

Jenny Lind baby crib and mattress by Simmons. Solid black maple, excellent condition. \$110. Call 770-923-1048

REAL ESTATE/ROOMMATES

1BR/1BA Brookhaven condo in quiet neighborhood. Gas fireplace, newly remodeled kitchen/bath, W/D, off-street parking, balcony with lake view. \$120,000 or \$900/month starting January. E-mail annie.pearce@gtri.gatech.edu.

2BR/2BA newly renovated contemporary condo in walking distance of Tech. High-end Grohe kitchen and bath, low fees, lots of light, lots of storage, \$179,900. E-mail tyanna.herrington@lcc.gatech.edu.

1BR/1BA apartment, 950 square feet. Central air, includes washer/dryer and water. All electric, average bill \$75. One block from Georgia Tech bus, MARTA and Piedmont Park. Call 404-668-7220.

Elegant 1BR/1BA duplex in Grant Park. Hardwood floors, 11-foot ceilings, central HVAC, no smokers or pets, perfect for single person. \$600/month. Available November. Call 404-375-3937.

Furnished downtown 1BR condo. See www.thewilliamoliver.com. Utilities paid with association fee. Pre-paid parking. 24/7 concierge. 10-year tax abatement. \$110,000. Call 678-368-9249 or e-mail omaar_keiko@bellsouth.net.

3BR/2.5BA home for sale in friendly downtown Duluth community. Loft office/playroom/4th bedroom. \$192,900. Call 770-335-6779 or visit www.owners.com, listing ID: ATG0578.

3BR/2BA house for rent in Ben Hill. Not on bus line. Also, 3BR/1BA house in Adamsville, on bus line.

Katrina victims and Section 8 welcome. Call 404-699-0589.

SPORTS/FITNESS/RECREATION

Weider Universal Gym with weight bar, free weights and all attachments. \$50 OBO. I want this out of my house. Call 404-484-3298 leave message.

MISCELLANEOUS

Complete set of “Sports Illustrated” magazine covering 1980-present. Best offer. Call 770-428-8823.

Nikon FM10 with zoom lens and case, like new, \$180. Nikon F3 with 50mm lens, \$210. Many other photo items also for sale. E-mail jim.cook@gtri.gatech.edu or call 894-2455.

Free yellow jacket nest removal, to be used for research at Georgia Tech. Call 385-6311 or e-mail mg225@mail.gatech.edu.

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