Clough to lead committee on engineering and policy issues for New Orleans

Matt Nagel
Institute Communications and Public Affairs

P resident Wayne Clough has been named chair of the National Academy of Engineering/National Research Council Committee on New Orleans Regional Hurricane Protection Projects, charged with overseeing studies into why the levee failures occurred when Hurricane Katrina struck the city last year, as well as reviewing the designs and plans for rebuilding the flood protection systems around New Orleans.

Clough, whose first job as a Georgia Tech alumnus was working on flood protection issues for the Mississippi River Basin with the U.S. Army Corps of Engineers, said, “It is an honor to be asked to serve as chair of the committee and a role that I’m pleased to undertake. I know the history of these projects and relate closely to their importance to the people living there.”

Since last August, Georgia Tech has been intimately involved with relief efforts, helping displaced residents by offering some of its buildings to be used as shelter space and allowing some students to transfer to Tech. Members of the Tech community volunteered to help in other ways such as fundraising and sponsoring several service trips to the Gulf Coast region.

“It is now time for Georgia Tech to do what we can with our special expertise to help in the very large effort to rebuild,” said Clough. “As president, I hope to represent Georgia Tech and its commitment to work on these issues until they are resolved.”

Clough said the Corps will continue its work to repair the damaged areas because of the urgency of the upcoming hurricane season. This work will initiate improvements to the levees that will, over time, enhance the level of protection they can provide.

Committee continued, page 3

Georgia Tech Lorraine names Berthelot as new director

Megan McRainey
Institute Communications and Public Affairs

Y ves Berthelot, a professor in the School of Mechanical Engineering, has been named director of Georgia Tech Lorraine, Georgia Tech’s European campus in Metz, France. Last fall, Hans Püttgen, who had led Georgia Tech Lorraine (GTL) since its founding, announced his intention to retire from Georgia Tech to pursue other opportunities at his alma mater in Lausanne, Switzerland.

Berthelot, who is residing full time in Metz, will oversee all administrative, operational and financial responsibilities for all research and academic programs at GTL and coordinate operational relations with local and national institutions in France. He will also play a key role in the strategic development of GTL, in collaboration with senior administrators and faculty members in Atlanta, GTL faculty and local and regional partners in Lorraine and in Europe.

“GTL offers some extraordinary challenges and opportunities for Georgia Tech’s faculty and students through innovative academic programs, collaborative international research programs and transatlantic economic development,” said Berthelot, a French native who joined the Tech faculty in 1985. “I am honored to be part of this effort.”

At its December meeting, the Assemblée Générale (Board of Directors) of GTL asked Provost and Vice President of Academic Affairs Jean-Lou Chameau to chair the board as president of GTL. Chameau is familiar with the Assemblée Générale, having served on the board since 1997. As president, Chameau will ensure that GTL continues to focus on the development of collaborative research programs and transatlantic capacity.

GTL continued, page 3

Meindl wins IEEE Medal of Honor

Michael Hagearty
Institute Communications and Public Affairs

T he Institute of Electrical and Electronics Engineers (IEEE) has announced that Jim Meindl, director of the Microelectronics Research Center and the Joseph M. Pettit chair and professor of Microsystems in the School of Electrical and Computer Engineering, as its choice to receive the profession’s highest award.

The IEEE Medal of Honor is given to individuals who have demonstrated technological preeminence in their field. Meindl’s citation notes his “pioneering contributions to microelectronics, including low-power, biomed- ical, physical limits and on-chip interconnec- t networks.”

“Dr. Meindl is a giant in the field of microelectronics who has been a leader in the semiconductor field for over 40 years,” said IEEE President Michael Lightner. “His pioneering research in the area of gigascale silicon technology integra- tion and his leadership in developing low-power integrated circuits and sensors are only two of his invaluable contributions to the field of microelectronics.”

“A look at the past recipients of the IEEE Medal of Honor reveals a veritable pantheon of electrical engineer- ing brilliance,” School of Electrical and Computer Engineering Chair Gary May said. “This list includes names like Marconi, Nyquist, Bardeen, Shockley, Fülöp and Grove. We can now add Meindl to that august group. He is clearly deserving. We in ECE could not be more proud of Jim, nor more honored to have him as a colleague.”

Meindl will receive his award during the annual IEEE Honors Ceremony in June.
Evolution study tightens human-chimp connection

Study also suggests human evolution slower than apes

David Terrasco
Institute Communications and Public Affairs

Scientists at Georgia Tech have found genetic evidence that seems to support a controversial hypothesis that humans and chimpanzees may be more closely related to each other than chimps to the other two species of great apes — gorillas and orangutans. They also found that humans evolved at a slower rate than apes.

Appearing in the Jan. 23 issue of the Proceedings of the National Academy of Sciences, Assistant Professor Sookjin Yi reports that the rate of human and chimpanzee molecular evolution — changes that occur over time at the genetic level — is much slower than that of gorillas and orangutans, with the evolution of humans being the slowest of all.

As species branch off along evolutionary lines, important genetic traits such as the rate of molecular evolution also begin to diverge. They found that the speed of this molecular clock in humans and chimps is so similar, it suggests that certain human-specific traits such as generation time began to evolve one million years ago, very recently in terms of evolution. The amount of time between parents and offspring is longer in humans than apes. Since a long generation time is closely related to the evolution of a big brain, it also suggests that developmental changes specific to humans may also have evolved very recently.

In a large-scale analysis of approximately 65 million base pairs of DNA, the scientists studied genetic substitution, the rate at which the base pairs define the differences between species were incorrectly paired due to errors in the genetic encoding process.

“For the first time, we’ve shown that the difference in the rate of molecular evolution between humans and chimpanzees is very small, but significant, suggesting that the evolution of human-specific life history traits is very recent,” said Yi.

Most biologists believe that humans and chimpanzees had a common ancestor before the evolutionary lines diverged about 3-5 million years ago. According to the analysis, one million years ago, the molecular clock in the line that became modern humans began to slow down. Today, the human molecular clock is only 3 percent slower than the molecular clock of the chimp, while it has slowed down 11 percent from the gorilla’s molecular clock.

This slow down in the molecular clock correlates with a longer generation time because substitutions need to be passed to the next generation in order to have any lasting effect on the species.

“A long generation time is an important trait that separates humans from their evolutionary relatives,” said Navin Elango, a graduate student in the School of Biology and the research paper’s first author. “We used to think that apes shared one generation time, but that’s not true. There’s a lot more variation. In our study, we found that the chimpanzee’s generation time is a lot closer to that of humans than it is to other apes.”

The results also confirm that there is very little difference in the alignable regions of the human and chimp genomes. Taken together, the study’s findings suggest that humans and chimps are more closely related to each other than the chimps are to the other great apes.

“I think we can say that this study provides further support for the hypothesis that humans and chimpanzees should be in one genus, rather than two different genus’ because we not only share extremely similar genomes, we also share similar generation time,” said Yi.

Even though the 65 million base pairs they studied is a large sample, she noted that it was a small part of the genome. “If we look at the whole genome, maybe it’s a different story, but there is evidence in the fossil record that this change in generation time occurred very recently, so the genetic evidence and the fossil data seem to fit together quite well so far.”

Study shows glass shape leads to alcohol over-pouring

Brad Dixon
College of Management

Your eyes can play tricks when it comes to pouring drinks. According to a recent research study published in the British Medical Journal, people inadvertently pour 20 to 30 percent more alcohol into short, wide glasses than tall, slender ones of the same volume.

“People focus their attention on the height of the liquid they are pouring and insufficiently compensate for its width,” explains Koert van Ittersum, an assistant professor of marketing in the College of Management.

Even educating people about this human perceptual tendency and encouraging them to be careful doesn’t eliminate alcohol over-pouring, finds van Ittersum and Brian Wansink, a professor of marketing, applied economics and nutrition science at Cornell University, in their study, “Reducing Alcohol Over-pouring and Under-reporting.”

They consider their findings relevant to policymakers and law enforcement officials who want to increase public safety, groups wanting to promote responsible drinking and decrease alcohol abuse, and people in the hospitality industry who want to cut costs without decreasing customer satisfaction.

“If short tumblers lead people — even bartenders — to pour more alcohol than highball glasses, then there are two easy solutions,” van Ittersum said. “Either use tall glasses or ones with alcohol-level marks etched on them as is done in some European countries.”

The researchers conducted their study using 198 students of legal drinking age at the University of Illinois at Urbana-Champaign who poured mock mixed drinks into both tall and short glasses from liquor bottles filled with water or tea instead of alcohol. Study subjects also included 82 bartenders in Philadelphia who had an average of 6.3 years of bartending experience.

Even 10 rounds of practice didn’t make close to perfect for students involved in the study. More career experience led bartenders to pour less alcohol into shorter glasses, but they still over-poured. “This tendency is not sufficiently reduced by education, practice, concentration or experience,” van Ittersum said.
Foundation renews support of School of International Affairs

Elizabeth Campell
Institute Communications and Public Affairs

The John D. and Catherine T. MacArthur Foundation recently announced four grants totaling nearly $8 million to Georgia Tech, Carnegie Mellon University, Cornell University and Princeton University to increase the number of faculty positions and researchers working on projects at the intersection of science and security policy. The grants are made as part of the Foundation’s $50 million Science, Technology and Security Initiative — an effort to help expand the pool of independent experts in the U.S. and internationally who can provide objective technical analysis of international security issues.

“This is a sure sign of our growing maturity as a university, and I am pleased to have seen this happen while I am privileged to be here,” said President Wayne Clough.

“The continuing support of the MacArthur Foundation will allow us to create an enduring community of scholars at Georgia Tech dedicated to providing the best independent scientific and technical advice on the security policy challenges facing the United States and the world,” says William Long, chair of the School of International Affairs.

The School received a renewal grant of $1.84 million, extending the initial grant for five years. The new grant will fund four research initiatives on information security and cyber threats, the role of information and communications technology in societal reconciliation and reconstruction following conflict; initiatives to reform the Nuclear Nonproliferation Treaty; and continue to develop a public-private partnership among federal, state and local agencies to prevent bioterrorism.

This grant will also fund one new tenure-track faculty position and provide support to dozens of mid-career and graduate research fellowships in science and security through the Nunn Security Program. Assistant Professor Mike Best holds one faculty position under the terms of the original grant, and the renewal award will fund a second faculty hire in the area of Science, Technology, and International Security.

“The number of specialists providing independent analysis of nuclear and biological weapons dangers falls far short of the international community’s needs, especially as the threat of terrorism has grown,” said Jonathan Faxon, president of the MacArthur Foundation. “The diffusion of nuclear weapons material and expertise, and the emerging dangers from biotechnology and cyber-space pose new and profound threats to international peace and security. There should be more substantial engagement between policymakers responsible for decisions regarding security and technical specialists with the expertise on these new and emerging threats.”

The Foundation’s Science, Technology and Security Initiative is designed to nurture a new generation of experts working on issues at the intersection of science, technology and policy and to close gaps in knowledge about the technical aspects of national and international security.

IN BRIEF:

Tax forms now available

The Office of Human Resources announced that 2005 W2 and 1042S forms are now available online at techworks.gatech.edu. Forms are also being mailed to each employee’s address of record.

Faculty committees seek candidates

The 2006 Institute Nominating Committee seeks members of the Academic Faculty and General Faculty who are willing to be candidates for election to Institute standing committees. Potential candidates are being sought to fill five positions representing Services and Central Administration units on the General Faculty Assembly. The election will be held during Spring 2006, and successful candidates will begin serving in Fall 2006, normally for a three-year term.

A list of the available committee positions, descriptions of committee responsibilities and eligibility restrictions, definitions of Academic Faculty and General Faculty membership and other information are available online at users.ece.gatech.edu/-/hughes/nom. Eligible faculty members may volunteer as a potential candidate by sending an e-mail to Joseph Hughes (joe.hughes@ece.gatech.edu) no later than Jan. 30.

Cyber security expert joins GTISC

The College of Computing has announced that Howard Schmidt has joined its Georgia Tech Information Security Center (GTISC) as an adjunct professor. Schmidt will work with GTISC faculty and students on research efforts to improve the state of information security by lending his vast knowledge and expertise in this growing technological area.

“I have spent my career trying to raise national awareness of information security issues through my various corporate and public policy positions,” said Schmidt. “By joining the College of Computing at Georgia Tech, I can now provide my vision and insight to those research and educational initiatives that will drive the future development of cyber security solutions for the everyday computer user.”

Schmidt’s career as an information security advocate includes leadership roles in both public and private sector organizations. He held executive positions with the Information Systems Security Association, the Information Technology Information Sharing and Analysis Center, and the National Institute of Standards and Technology. Schmidt also served as vice president and chief security strategist for eBay and chief security officer for Microsoft.

The College of Computing continuously seeks out industry experts and visionaries such as Howard Schmidt to take our faculty and students to greater heights in computing research,” said Richard DeMillo, dean of the College of Computing. “We are thrilled to be able to tap into Howard’s expertise and apply it to the College of Computing’s academic and research programs surrounding cyber security.”
C A M P U S E V E N T S

Art & Culture
Jan. 26
The Ferst Center holds a one-day, half-price sale for Tech faculty and staff who wish to purchase tickets to remaining season performances. To view a schedule, visit www.ferstcenter.org.

Jan. 27
The Ferst Center welcomes The Flying Karamazov Brothers, who will perform “Life: A Guide for the Perplexed,” at 8 p.m. For tickets and information, visit www.ferstcenter.org or call 894-9600.

Jan. 31
The Music Department welcomes Columbia University Professor Tristan Murral, at 2:50 p.m. in room 104, Couch Building. For more information, visit www.music.gatech.edu.

Feb. 2
The School of Literature, Communication and Culture’s annual H. Bruce McEver Poetry Reading features Chard deNord, Kurtis Lamkin and H. Bruce McEver, at 4:50 p.m. in the Clay Theater.

Brown Bags/Conferences/Lectures
Jan. 25
The College of Management IMPACT Speaker series continues with J. Paul Raines, southern division president of The Home Depot, at 4:30 p.m. in the LeCraw Auditorium.

Jan. 25
The Architecture Program hosts a lecture by Marc Simmons who is a founding partner of Front Inc., an architectural design and structural engineering practice specializing in facade consulting, at 5 p.m. in the College of Architecture Auditorium.

Jan. 31
The Materials Council welcomes Lehigh University Professor Slade Cargill, on “Thermal and Electromigration-Induced Strains in Polycrystalline Films and Conductor Lines,” at 3 p.m. in room 183, Love Building.

Feb. 7
The Faculty of Safety/Lectures
Feb. 7
The Faculty of Safety/Lectures
Feb. 9
The Office of Organizational Development sponsors the brown bag discussion, “Introduction to the Engineering Disciplines for Campus Administrators,” featuring College of Engineering Associate Dean Kurtis Lamkin, at 11:30 a.m. in room 308, Savant Building. To register, visit www.trainsweb.gatech.edu.

Miscellaneous
Jan. 24
The Georgia Tech Women’s Forum welcomes Calvin Bennett, owner of CVI Ergonomics, on “The Hidden Cost of Repetitive Stress Disorder,” at noon in the Student Center, room 321.

Jan. 25
The Georgia Tech Alumni Association hosts its quarterly Women on Wednesdays event on “Leadership Development: The How-To’s of Serving on a Board of Directors.” Panelists will discuss the differences between serving on corporate, civic and community boards as well as the various qualifications necessary to be invited to serve as a director. For more information and to register, visit www.gtaumni.org/WOW.

Upcoming events:
Apr. 12 Faculty/staff Honors Luncheon
Student Center Ballroom, noon - 2 p.m.
Apr. 19 Student Honors Luncheon
Student Center Ballroom, 11 a.m. - 2 p.m.
May 23 Retirement Dinner
Wardlaw Building, 6 - 9 p.m.

E-mail calendar events to editor@icpa.gatech.edu as soon as dates are confirmed.

C L A S S I F I E D S

Appliances
Haier portable dishwasher, 18-inch (midsize), 1.5 years old, $125 (new $250). Call 385-2248 or e-mail lucia.twanslaw@grl.gatech.edu.

Automobiles
1992 Honda Civic LX. Kelley Blue Book. Good condition except low compression in one cylinder. One owner, like-new Michilins, third timing belt at 1868 miles. Any reasonable offer accepted. Call 404-514-7345 or e-mail dave.scott@grt.gatech.edu.

1993 Ford Taurus GL with 89,500 miles. Moving overseas, must sell. Good condition, runs smoothly a/c, power steering/locks/windows. Non-smoker. $1,500. E-mail kuirits@ece.gatech.edu.

1996 Lexus 400. Excellent condition rating. Leather seats, beige leather interior, gold exterior, luxury vehicle features. 132,828 miles, $4,700. All reasonable offers considered. Call 404-349-1329 or e-mail j考验@earthlink.net.

2002 Nissan Frontier 4-door shortbed pickup. 46,582 miles, 5-speed, CD, bed liner, extended warranty, new tires, $13,000. Pictures at www.prism.gatech.edu/~sp119. Call 678-059-8096 or e-mail sabrebiker@sprintpcs.com.

Furniture
Moving sale: Sofa, chair and ottoman set. All in great condition. E-mail woord@gatech.edu for pictures.

Moving sale: Bookshelf. Java queen bed, night stands; Ethan Allen entryway. $500. E-mail holt8274@yahoo.com.

Coffee table with two matching end tables. Oak finish. Very good condition, any reasonable offers considered. Call 770-928-7345.

Real Estate/Rentals
Room for rent in furnished 3BR/2.5BA townhouse. New carpet and paint. 20 minutes to downtown. Walking distance to MARTA. $800/month + utilities, available now. Call 770-907-6861.

28R/28A condo on Pharr Road in Buckhead, hardwood floors, updated kitchen, new gas furnace and central air, alarm system, ceiling fans, quiet end unit, reserved parking, on-site storage and laundry facilities. $114,900. Call 404-788-2055.

28R/28A house for rent, family room with fireplace, dining room. One mile from GA 78. Private drive way with carport. Large kitchen, central heat and air, washer/dryer, plenty of storage. $750/month includes utilities. Call 678-250-2612.

3/4-acre lot at Turtle Cove on Lake Lanier. Great lake view. $139,900. E-mail pnelson36096@comcast.net or call 770-541-6769.

Miscellaneous
Jenny Lind Crib with mattress and mattress pad, Graco Freeze 3-piece Stroller, car seat and carrier set and a Century toddler car seat with pull-over security belt. All items in excellent condition, any reasonable offers will be accepted. E-mail filoth8274@yahoo.com.

Baby high chair, $10; Graco stroller, $25; Oriental rug, 8x5x10, emerald green w/pink flower design, $150; three Victorian-style, framed pictures, $75 each; Oriental bookcase, $125. Call 894-9566.

Dog cage, 28"x42"x25". Excellent for crate training. $40. Call 678-617-7084.