

Faculty Awards and Honors

Georgia Tech faculty and staff receive recognition.

G. Wayne Clough, president of the Georgia Institute of Technology, received the 2004 Outstanding Projects and Leaders (OPAL) award from the American Society of Civil Engineers (ASCE). The ASCE instituted the OPAL Awards in 2000 to recognize the lifetime achievements of civil engineers whose contributions have greatly enhanced the health, safety and economy of the nation and the world. Clough is Georgia Tech's 10th president and the Institute's first alumnus in that office. During his tenure, enrollment has increased from 13,000 to 16,600, and test scores and retention rates have increased dramatically.

College of Computing Professor **Mary Jean Harrold** received a Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring on behalf of the Computing Research Association's Committee on the Status of Women in Computing Research, for which she is co-chair.

Two Georgia Tech Professors have been elected to the National Academy of Engineering. Election to the

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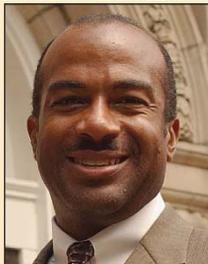


Jeff Wu

National Academy of Engineering is among the highest professional distinctions accorded to an engineer.

Georgia Tech's new members are: **Biing-Hwang "Fred" Juang**, the Motorola Foundation Chair Professor and GRA Eminent Scholar in the School of Electrical and Computer Engineering, for contributions to speech coding and speech recognition; and **Chien-Fu "Jeff" Wu**, the Coca-Cola Chair in Engineering Statistics in the School of Industrial and Systems Engineering, for conceiving and building modern systems of experimental design based on contemporary methods for parameter estimating to provide quality improvements.

PHOTO BY NICOLE CAPPELLO



Gary May

The American Society for Engineering Education (ASEE) gave its 2004 ASEE Minorities in Engineering Award to **Gary May**, executive assistant to the

president and Motorola Foundation Professor of Microelectronics in the School of Electrical and Computer Engineering. May is also chair of the National Advisory Board of the National Society of Black Engineers.

PHOTO BY CAROLINE JOE



Julia Kubanek

Julia Kubanek, an assistant professor in the School of Biology and the School of Chemistry

and Biochemistry, was presented with a 2002 Presidential Early Career Award for Scientists and Engineers (PECASE) by John H. Marburger III, the science advisor to President Bush and director of the White House Office of Science and Technology Policy. Kubanek was nominated by the National Science Foundation (NSF), which funds her research in aquatic chemical ecology with a prestigious NSF Faculty Early Career Development (CAREER) award.



Julia Kubanek handles a crayfish during an experiment.

PHOTO BY CAROLINE JOE

Faculty Research in the News

Georgia Tech researchers' work covered in the news media.

Aviation Week and Space Technology, as well as *The New York Times*, reported on a Georgia Tech landmine-detection system that uses high-frequency seismic waves to displace soil and objects in it slightly. A non-contacting radar sensor then measures the results, creating a visual representation of the displacement that reveals the buried mines.

Waymond Scott in the School of Electrical and Computer Engineering heads the project. (See the *Research Horizons* article at gtresearchnews.gatech.edu/reshor/rh-w04/landmine.html).

Popular Mechanics published an article on the 3-D microfabrication research being done by **Seth Marder** and **Joseph Perry** in the School of Chemistry and Biochemistry. The technology, which uses materials that are chemically altered when they absorb two photons, could provide a new way to produce complex 3-D shapes. Another publication reporting on the work was *OE Magazine*. (See the Research Links article on page 6 of this issue or the full news release at gtresearchnews.gatech.edu/newsrelease/3dmicrostructures.htm).

Popular Science covered research on microneedles, a new technology for providing transdermal delivery of drug compounds. This work is led by **Mark Prausnitz** in the School of Chemical and Biomolecular Engineering. (See the Research News article at gtresearchnews.gatech.edu/newsrelease/needlespnas.htm).

The *Miami Herald*, *Kansas City Star*, *Houston Chronicle* and *Florida Times-Union* were among the more than two dozen newspapers carrying an Associated Press article on the "recon round" being developed in GTRI. The research is led by senior research engineer **Chuck Stancil**. Other news organizations reporting on the research include MSNBC.com and R&D Magazine. (See the *Research Horizons* article at gtresearchnews.gatech.edu/reshor/rh-f03/recon.html).

Mechanical Engineering reported on work being done by researchers in GTRI and the School of Electrical and Computer Engineering (ECE) on a vision-based system for inspecting sandwich buns on the production line. In addition to **Doug Britton** of GTRI and **Bonnie Heck** of ECE, the research team also includes Baking Technology Systems of Tucker, Ga. Other publications reporting on the work include *Machine Design* and *Food Management*. "Daily Planet," a program that airs on the Discovery Channel in Canada, is also scheduled to air a story on project. (See the *Research Horizons* article at gtresearchnews.gatech.edu/reshor/rh-f03/buns.html).

Design News reported on cooling technologies developed at Georgia Tech and licensed to a start-up company, Innovative Fluidics. The technologies offer a new means for cooling high-powered electronic equipment. They were developed by **Ari Glezer** of the School of Mechanical Engineering. *Product Design & Development*, *Designfax* and *Electronic Design* also described the research. (See the *Research Horizons* article at gtresearchnews.gatech.edu/reshor/rh-w04/fluidics.html).

PHOTO BY NICOLE CAPPELLO



Researchers have developed a computer vision and automated analysis system to track the movements of social insects, including bees.

R & D Magazine described a computer vision and automated analysis system developed by **Tucker Balch** and his colleagues in the College of Computing. The system records the movements of social insects, such as bees and ants. The information could then be used to improve programming for teams of robots working together. The *South Florida Sun-Sentinel* and the *Richmond Times-Dispatch* also covered this research. (See the *Research Horizons* article at gtresearchnews.gatech.edu/reshor/rh-f03/gvu-bees.html).

NASA Tech Briefs reported on the one-step dental tool being developed by researchers at the Georgia Tech Research Institute (GTRI) and the Medical College of Georgia. The tool would handle cavity removal, fillings and preventive treatments. **Shayne Kondor** in GTRI is the principal investigator. (See the *Research Horizons* article at gtresearchnews.gatech.edu/reshor/rh-f03/dental.html).

IMAGE COURTESY Z.L. WANG



"Nanorings" could be the basis for sensors and other nanomachines.

Electronic Engineering Times reported on Georgia Tech's development of new nanometer-scale structures known as "nanorings." Made from zinc oxide, these circular structures could be the basis

for sensors and other nanomachines that may have biomedical applications. **Z.L. Wang** in the School of Materials Science and Engineering is the principal investigator. *Materials Today*, *Sensors* and *Advanced Materials and Processes* also covered this research. (See the Research News article at gtresearchnews.gatech.edu/newsrelease/nanorings.htm).

Surface Mount Technology cited GTRI work for DEK, a British equipment maker, as an example of how research outsourcing can work for private companies. DEK worked with researcher **Jeff Gerth** and others in GTRI to improve the user interface for its equipment. (See the Research News article at gtresearchnews.gatech.edu/newsrelease/dek.htm).

Professional Safety magazine devoted half a page to describing GTRI's project to provide Spanish-language safety materials for the growing population of Hispanic construction workers. The project is headed by **Art Wickman**. (See the *Research Horizons* article at gtresearchnews.gatech.edu/reshor/rh-w04/osha.html).