Program ADVANCEs
Professors working to promote institutional change

A team comprised of Institute faculty and staff members is striving to aid Tech in hiring, promoting and retaining more women in faculty positions.

Begun in 2001 with a five-year grant from the National Science Foundation (NSF), the Georgia Tech ADVANCE Program for Institutional Transformation initially was founded to increase participation of women in the scientific and engineering workforce through increased representation and advancement of women in academic scientific and engineering careers.

After the grant period ended, the program was institutionalized at Tech, overseen by the Office of the Provost and in partnership with the Center for the Study of Women, Science and Technology (WST). The team provides conferences, workshops, online resources and other activities to aid and inform individual faculty members and campus leadership.

ADVANCE professors initially were chosen from the colleges of Sciences, Engineering, Computing and the Ivan Allen College in 2001 to serve for five years. With funding moving from the NSF to the Provost’s and President’s offices in 2006, the program expanded to include the College of Architecture and the College of Management. While each professor works to initiate cultural change across the Institute, they also work within their college, advising school chairs and other departmental heads. “[Former Provost Jean-Lou Chameau] felt it should be campus-wide,” said Management Professor Christina Shelley. As one of the “new” ADVANCE professors, she is in the third year of her five-year commitment.

Other ADVANCE Professors include Mary Frank Fox with the Ivan Allen College; Mary Jean Harrold with the College of Computing; Mary Ann Ingram with the College of Engineering; Wing Suet Li with the College of Sciences; and Catherine Ross in the College of Architecture. Monique Tavares and Donna Redmon, both with the Provost’s Office; and Literature, Communication and Culture Professor Carol Colatrelia and Polymer, Textile and Fiber Engineering Associate Professor Mary Lynn Reall—co-directors of the Center for the Study of Women, Science and Technology—round out the Georgia Tech ADVANCE team. At the helm is Gilda Barabino, vice provost.

EVENTS

ARTS & CULTURE

Through February

http://tinyurl.com/b5k6ao

March 5
Jazz singer Matt Dusk performs at the Ferst Center for the Arts, beginning at 8 p.m. Tickets are $15 and $25, $12 and $20 with a subscription.

http://tinyurl.com/d8wa85

March 7
Saxophone master David Sanborn performs with his group at the Ferst Center for the Arts, beginning at 8 p.m. Tickets are $38 and $48, $30.40 and $39.40 with subscription.

Library and Information Center present


http://tinyurl.com/d8wa85

RESEARCH

Quantum memory now lasts longer than ever—7 msec
Physicists at Georgia Tech have set a new record for the length of time quantum information can be stored and retrieved from an array of atoms.

http://tinyurl.com/dd28zm

PEOPLE

Visiting professor speaks on climate change
Bryan Norton, professor of philosophy in the School of Public Policy, spoke at 7:30 p.m. Tuesday on “Strategy Amid Uncertainty: Learning to Think Like a Planet.”

http://tinyurl.com/dd28zm

NEWS

Ice’s effect on airplanes
In the wake of the recent commuter air crash, Georgia Tech researcher Jim Brooks discusses how the melting of ice on airplanes can cause a plane to lose lift and stall. (Link goes to video.)

http://tinyurl.com/d8wa85

A new song
Inventors showcase instruments at annual Guthman competition

For the last 10 years, Tech alum Richard Guthman has sponsored a national keyboard competition, in honor of his wife, Margaret. This year, the contest has taken a bit of a new direction, seeking those who have branched out to create new instruments.

Musician inventors from across the nation have entered their creations, ranging from musical software to performing “hardware,” into the contest. On Saturday, the Center for Music Technology (GTcMT) will host the six finalists, who will present their creations and perform on campus.

Brooklyn-based musician and computer engineer Eric Singer founded LEMUR (League of Electronic Musical Urban Robots), a group of like-minded engineers, designers and musicians. Over the past nine years, the group has designed, built and programmed several robots, which play with local musicians. “Initially, we had to teach ourselves mechanical systems [and] how to make parts,” Singer said. “We can make them much more easily now.”

Singer, an alumnus of Carnegie Mellon University and Berklee College of Music, will showcase his guitar bot. “It’s the first...”
Research

ATAS director named

Rusty Roberts has worked at GTRI since 1988

ABBY VOGEL

Research NEWS

Rusty Roberts recently returned to the Georgia Tech Research Institute (GTRI) Cobb County Research Facility, where his career with Tech began in 1988. In January, he was named director of GTRI’s Aerospace, Transportation and Advanced Systems (ATAS) laboratory, one of two units headquartered at the Cobb facility nearby Dobbins Air Reserve Base.

“I’m excited to lead the ATAS laboratory and inject my own thoughts and ideas into the direction that this group of researchers should go,” Roberts said. “I was able to hit the ground running because I already knew about 80 percent of the researchers in the laboratory—whether from working here previously or from reaching out and collaborating while I was in ITTL.”

His appointment comes eight years after he was director of business development in GTRI’s Information Technology and Telecommunications Laboratory, 12 years as program manager in the Systems Development Laboratory that was merged to create ATAS and 10 years as an officer in the U.S. Army Signal Corps.

ATAS has a long legacy of providing threat radars, simulators to the test-and-evaluation community, but also of solving complex problems in the diverse areas of aeronautics, transportation, and power and energy. Another key capability within ATAS is its Food Processing Technology Division, which provides technical solutions to the food processing industry.

“The diversity of the laboratory presents its challenges, but I’m going to try to connect the overlapping capabilities and core competencies, both technical abilities and sponsors, among the groups,” Roberts said.

Roberts plans to gradually increase the number of laboratory personnel and sponsors.

“I want to revitalize our core threat business, exploit our prototyping abilities, use my expertise in business development to expand the outreach of the Food Processing Technology Division, and bring some of the U.S. Department of Defense contacts I’ve developed to the aerospace researchers.”

He also wants to grow the laboratory’s unmanned autonomous systems capability. Growth in this area will be aided by a contract recently awarded to Roberts and GTRI principal research engineer Lora Weiss to support development of a roadmap designed to improve the testing and evaluation of unmanned and autonomous systems for the U.S. Office of the Secretary of Defense. GTRI is also participating in other UAV programs, including a multi-organization effort aimed at developing very small autonomous devices.

Roberts is currently vice president and executive committee member of the International Test and Evaluation Association. He also started and presently leads a GTRI-wide test and evaluation initiative that brought together the Joint Systems Integration Command and the Defense Test Resource Management Center. The resulting collaboration directly led to a $1.9 million research award.

He has been married since 1990 to Cindy, whom he met while working at GTRI. She currently supports GTRI’s deputy director of support operations. They have three adult children, Bobby, Christina and Kevin, and live in Marietta.

Taking it on the road

Studies could boost existing highway capacity by managing lanes

RICK ROBINSON

RESEARCH NEWS

Randall Guensler, a professor in the School of Civil and Environmental Engineering, studies transportation efficiency in metropolitan areas.

His current work focuses on close monitoring of real-world driving behavior. The goal is to find ways to improve traffic flow by maximizing the use of existing highways.

The vehicle-activity data being monitored are useful, he explains, not only for evaluating travel behavior, but also for studying traffic operations, safety, and environmental impact. Such data can help guide decisions affecting transportation planning and environmental policy analysis.

“Many experts now believe that actively managing lane use can provide greater improved service without having to construct extra lanes,” Guensler said.

These managed-lane strategies can be implemented for minimal cost, especially when compared to the land and construction cost, the traffic problems and the demolition issues involved in building new roads.”

Guensler and his team are involved in two major projects directly associated with transportation efficiency and managed-lane approaches:

■ Commute Atlanta is a four-phase project that examines how monetary incentives, often called “value pricing,” can influence driving behavior. The $2.3 million joint project, sponsored by the Federal Highway Administration and the Georgia Department of Transportation (GDOT), is also collecting vehicle-use and demographics data useful in studying highway safety and air quality, as well as traffic flow.

■ The Congestion Pricing Project, sponsored by the GDOT, uses a variety of techniques to collect consumer opinion and other data on lane-management approaches such as value pricing.

The benefits of controlling lane use through value pricing—such as reduced congestion pricing or peak-period pricing—are counter-intuitive, Guensler says. To people sitting in traffic, it looks as if fewer vehicles are flowing through the adjacent limited-access lane because there are big spaces between each car or truck.

“But in fact if you were looking from the top down, you’d see more vehicles going through that lane every hour than in the congested lanes,” he said.

Commute Atlanta’s first two phases, now complete, examined consumers’ responses to having a price attached to their travel practices. The study selected several hundred representative Atlanta households. Using in-vehicle computers and Global Positioning System (GPS) equipment to collect speed, position and engine-operating data, the study panned down each family’s average travel habits.

Then each household was offered a monetary rebate for each mile it could pare from its monthly total by any means possible: fewer trips, carpooling, using public transportation, biking or even walking.

Guensler says the study’s first two phases have helped establish research guidelines, but results haven’t been published. However, he adds, the data already collected from 470 vehicles and more than 1.8 million vehicle trips will be useful in ongoing air-quality and safety research.

The third and fourth phases of Commute Atlanta will simulate the impact of travel behavior on real-time congestion pricing—charging less for restricted-lane travel at off-peak periods.

Professor Randall Guensler displays equipment used to monitor driver behavior as part of studies on highway efficiency.
**HEALTH,** continued from page 1
as well as work to provide an Institute-wide definition for a balanced, healthy lifestyle. Departments involved in the coalition’s creation include Stamps Health Services, under Auxiliary Services; and the Campus Recreation Center and the Counseling Center, both under Student Affairs.

October 2008 marked the group’s introduction to the campus, and the duo said there are plans for a large-scale coalition kickoff in the fall. “A year from now, I would love to see an increased amount of student groups working with our coalition,” Oge said. “We’re defining what we’re going to do, who’s involved, and we must address the needs of faculty and staff as well.” And, Stewart adds, faculty and staff are essential in getting the word out to students.

Group members work to corral all the health-related events, initiatives and programs from around the Institute for inclusion in the Go T.E.C.H. calendar of events. They also will facilitate communications between the organizations or departments that could benefit from combining resources or programs and events.

For the Research work group, Go T.E.C.H. is perceived as a viable, valuable opportunity for students. “We’ve been involved in evaluating, researching and validating methods and practices regarding campus health issues. The long-term goals of this group also include tracking changes in the health and well-being of the campus community,” Oge said.

The group, according to Stewart, will assess what is needed on campus through both conversations with the community and benchmarking with peer institutions. Oge and Stewart looked into programs at The Ohio State University, the University of South Carolina and the University of Florida for the Go T.E.C.H. e-mail network. “We’re definitely promoting the idea of the challenge of maintaining a balanced and healthy lifestyle is not limited to students,” Oge said, noting that many of the same constraints keeping students from participating in campus health initiatives—time and class constraints—can apply to faculty and staff members, as well. “For the faculty and staff, we’ve joined a group where they can get the same help and resources that they need to address the needs of faculty and staff as well.”

“We are indebted to our members for giving up their time,” Oge said. “The consistency of health messaging is really important in defin- ing what a balanced, healthy lifestyle is at Georgia Tech for students, faculty and staff.”

Go T.E.C.H. is perceived as a valuable, viable entity on campus.” Some of the near-future goals for the coalition are to move into creating new programs and move into creating new

In the future, Oge and Stewart say the work groups will go beyond promoting existing programs and move into creating new initiatives and programs, as well as work to provide a consistent, Institute-wide health message. “It takes time for an initiative to develop,” Stewart said. “We can always add [more] as we go, and increase campus support, as well as add external support from individuals and companies.

“We are indebted to our members for giving up their time,” Oge said. “The consistency of health messaging is really important in defin- ing what a balanced, healthy lifestyle is at Georgia Tech for students, faculty and staff.”

For more information
Christie Stewart christie.stewart@ccr.gatech.edu www.gatech.edu www.crc.gatech.edu
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www.gatech.edu

**CARNegie NEWS BRIEFs**

**PRESIDENTIAL SEARCH NEARING END:** The Board of Regents of the University System of Georgia is expected to meet next week for a vote on Georgia Tech’s next presi- dent. After announcing that G.P. “Bud” Peterson was the sole finalist for the position, state law requires the Board to wait a minimum of 14 days to vote and name the president. Peterson is currently chancellor of the University of Boulder at Colorado.

**TAVeRAES NAMED TO POSITION IN SENIOR ViCE ProvOST’S OFFiCe:** Mark G. Allen, senior vice provost for Research and Innovation, has announced that Monique magazine Wired; and a GTCMT faculty representative, whose researchers are developing new ways to compose, listen to and perform music. “I’ve always been interested in the accessibility of music cre- ation,” said Egozy, who knows Center Director and Music Professor Gil Weinberg from the Media Lab at the Massachusetts Institute of Technology. “In most traditional instruments, musical expression can only come after achieving technical mastery—a process that can take years of hard and sometimes frustrating work. I would love to see new instruments that narrow the gap required for technical mastery yet preserve a rich palette for real musical expression.”

Beginning at 1 p.m. in the Couch Building, the finalists will perform. Admission is free and doors will open at 11 a.m. for an open-house showcase of the GTCMT’s recent work.

**Prizes will include $5,000 for first place. $3,000 for second place and $2,000 for third place.**

“We expect the Guzman Musical Instrument Competition will deliver paradigms of expres- sion and new modes of performance to both public and academic realms year after year,” said Music Department Director Frank Clark.

For more information http://gtcmt.coa.gatech.edu

**D. Tavares has been named director of Administration Research. The primary duties of this position are to sup- port the Institute’s research efforts through management of grant and award proposals, research faculty promotions, center policy and administra- tion, space management and direction of research-related projects. Tavares has previ- ously been the director of Faculty Career Development Services and student.” Oge said.

**PROMOTION AND TENURE AWARDED:** After fac-ulty consideration, interim President and Provost Gary C. B. Schuster announced that the tenure process has been completed for this year. He has approved 45 faculty promotions and awarded tenure to 31 faculty.

As part of an ongoing effort for enhanced communication by the Office of the President, Office of the Provost and Office of the Executive Vice President for Administration and Finance, this feature provides highlights and a snapshot of issues and projects of interest to the campus community. Carnegie Knowledge will be included in the last publication date of each month. Questions can be directed to Lynn Durham at Lynn.Durham@ Carnegie.gatech.edu.

**CHANCELLOR DAViS TO viSiT CAMPUS iN APRiL:** University System Chancellor Erroll B. Davis, Jr. will spend April 24 on campus in con- junction with the dedication of the Marcus Nanotechnology Building. Davis visits all of the 35 University System campuses for one day a year to meet with administrators, faculty, and students.”

**EVENTS**

May 5
Stanford University Professor Lawrence W.^{20}ando, the 2009 Distinguished Lecture, “Operations Research and Homeland Security: From Models to Implementation,” at 3:30 p.m. in room 201 of the Molecular Science and Engineering building. www.chbe.gatech.edu

March 4
The Office of Sponsored Programs presents a “Proposal Preparation and Submission” workshop, starting at 4 p.m. in room 108 of the Student Center Commons.

March 11
The Office of Organizational Development presents a brown bag seminar on “Performance Management Essentials—The Power of Goal Setting,” from 1 to 3 p.m. in the Crescent Room of the Student Center Commons.

March 7
The Women’s Resource Center kicks off Women’s Awareness Month with Take Back the Night. Other events during the month include the 10th Anniversary of the WRC Celebration of Women, the Women’s Day of Service, the Red Dress Fashion Show, Angela Davis, and Eve Ensler’s “The Vagina Monologues.”

For a more comprehensive listing of events updated daily, visit www.gatech.edu/calendar.

**FACULTY/STAFF DEVELOPMENT**

February 24–26
The Office of Sponsored Programs presents a “Proposal Preparation and Submission” workshop, starting at 4 p.m. in room 108 of the Student Center Commons.

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**MISCeLLANeOUS**

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The Student Services building. www.chbe.gatech.edu www.sps.gatech.edu

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for Academic Diversity (VPAD).

“It’s an honor to be named an ADVANCE professor, but it also involves a lot of work,” Shalley said. “Performing service is part of being a faculty member, and it’s rewarding to be able to work on something that you care about, that you think is important.”

Since being named to the team, Shalley says she has been working to make the promotion and tenure process across campus more transparent. “It’s a critical process for faculty retention and development.”

While planning campus workshops and events, Shalley says the team meets every two weeks. Otherwise, the group meets monthly, at a minimum. “It’s a very positive sign (from the Institute) to have a Vice Provost Barabino,” she said. Last year’s naming of Barabino as VPAD places someone in charge of the Institute’s program, bringing a set of people who are looking at the search diversifying initiatives. “We work as a team—not just in planning the events but also in identifying the issues,” Tavares said, adding that the goal is true Institute transformation.

Under the NSF-funded grant, Sandi Brambleti in the Office of Institutional Research and Planning tracked trends and information on the number of women in faculty positions, as well as those on committees, including provost’s and faculty Senate and Tenure Committee. As part of the institutionalization of the grant, the Provost’s Office is now charged with developing a website that will track such data and also manages the policies that evolved from the ADVANCE team’s efforts, such as stopping the tenure clock and the automatic evidence-reviewed process program. “Our office helps support anything having to do with work/life balance,” Tavares said.

Along with managing the nurses’ mothers’ rooms, the office also hosts the Georgia Tech parent networks’ monthly lunches providing faculty, staff and students with information on parenting issues.

On the Institute, college and school levels, the GT ADVANCE team works to make an impact in the recruitment and retention of women faculty through robust networking opportunities, tools and strategies, gathering information from faculty, and developing best practices and policies for promotion and tenure. “It works really well to have a resource of professors in each college, where we can meet and get advice on how things are handled [across the Institute],” Shalley said.

One program tool that comes out of the ADVANCE program is ADEPT (Awareness of Decisions in Evaluating Promotion and Tenure), which provides users with a resource to achieve fair and objective evaluations. The material provided assists users—either faculty members up for or committees evaluating promotion and tenure—in achieving fair and objective evaluation by identifying bias within the process. “The resource can be very helpful in educating people about how to avoid making decisions that may be inadvertently biased,” Shalley said.

She cited an example of two faculty members up for promotion and tenure. One candidate is male with six years in rank and the other is female with seven years, because she “stopped the tenure clock for a year” to have a child. “It is important that these cases be considered as equal in time at the Institute without any bias toward the woman,” Shalley said. “While men can also ‘stop the clock’ for a birth or adoption, it is an issue that is much more significant for women in academia, since they are the ones physically impacted by the decision and are more likely to be the primary caregiver, especially during the child’s first year.”

The program’s spring events kick off March 3 with a career coaching workshop. Faculty members have their curriculum vitae (CV) evaluated by senior faculty mentors. “It provides the opportunity for feedback for faculty members across the Institute, giving attendees ideas on how to improve their CV,” said Tavares. “They can also explore ideas for collaborations as they meet with coaches and network with other attendees.”

Many events—including career coaching—are open to all faculty members, not just women. For the future, Tavares says the program is exploring more workshops for school chairs. “We held one last year, focusing on recruitment and retention issues, while also exploring working/life balance issues for faculty members, such as child care,” she said. The Career Coaching workshops are generally a consistent format, while seminars for school chairs and faculty career development contain changing content. “In last semester’s faculty career development seminar, we examined the notion of scope and scale—what career paths exist once a faculty member reaches the rank of associate professor and achieves tenure.”

For the GT, the ADVANCE Program for Institutional Transformation is still working on collecting data and measuring the Institute’s progress. The team collected data from 2002 to 2006, during the NSF grant period, but has not conducted an Institute-wide climate survey of the faculty since that time. The Web site does contain the results of the Georgia Tech ADVANCE Survey of Faculty Perceptions, Needs and Experiences, conducted by Public Policy Professor and ADVANCE team member Mary Frank Fox. The team is exploring the next iteration of surveys across colleges and the Institute to assess the climate. “We’re setting up tracking indicators across and within colleges,” Shalley said. Indicators include promotion rate, perceived climate for teaching, research, developmental encouragement—who is looking to leave, overall satisfaction and interaction with others. Shalley said during her time as an ADVANCE professor, she would like to see changes that the ADVANCE team are working on concerning the promotion and tenure process implemented in the faculty handbook, as well as increase satisfaction of the family-friendly policies.

Since ADVANCE has been in place, she have observed that there’s more to be done.” Shalley said. “It’s helpful to have the ADVANCE professors in each college, so faculty know they have a senior faculty member whom they can approach with concerns or ask for advice.

For more information www.gatech.edu/academic.gatech.edu www.wst.gatech.edu www.advect.gatech.edu

In Brief...

This is only a test

The Georgia Tech Emergency Notification System (GTENS) will conduct its spring semester test on March 3, coinciding with the monthly test of the campus Siren Warning System, at 11 a.m. To register (GTENS) will conduct its spring semester test on March 3, coinciding with the monthly test of the campus Siren Warning System, at 11 a.m. To register, visit the Emergency Preparedness Web site.

www.gatech.edu/emergency

Looking back over 30 years

Associate Director of Career Services Cynthia Jordan has published the book “A Moment in Time: Thirty Years in the Making,” which details the evolution of the Placement Office. Jordan is currently working on a sequel that will focus on concerning the promotion and tenure process implemented in the faculty handbook, as well as increase satisfaction of the family-friendly policies.

In August, the book will be used to develop an undergraduate student scholarship.

www.bookstandpublishing.com

Labor for a good cause

The GT Crew is offering Rent-a-Rower. Its members will develop an undergraduate student scholarship. All proceeds from the sale of the book will benefit the William Carter Queensland Library.

www.adept.gatech.edu

Careers

Associate Professor Valerie Thomas, who holds a joint appointment in the Schools of Industrial and Systems Engineering and Public Policy, testified Feb. 11 before the U.S. House Committee on Science and Technology. Thomas was one of five witnesses regarding the draft legislation “The Electronic Waste Research and Development Act of 2009.”

www.ise.gatech.edu/thomastestimony

www.whistle.gatech.edu

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