Retreat looks at future of minorities in management

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If a recent congregation of Georgia Tech's minority managers is any indication of talent, then the future of the Institute is in good hands.

Passionate dialogue gave way to practical ideas in a retreat setting last week at the Institute for Paper Science and Technology. The goal: to identify barriers to advancement and possible solutions for overcoming those barriers. The retreat came on the heels of an Institute survey of minority managers, conducted to provide administrators with a better understanding of staff perceptions of career opportunities at Tech.

Overall, the survey results were positive as on average most respondents agree that their own managers support their participation in training/development opportunities; are committed to fair hiring practices; and provide fair and accurate performance ratings. Respondents also agreed on average that they have opportunities to interact with senior management, and that their work makes good use of their skills and abilities.

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Technology's toxic trash: finding a new use for e-waste

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Research News

A study underway at Georgia Tech — in cooperation with the Pollution Prevention Assistance Division of the Georgia Department of Natural Resources (DNR) and the National Science Foundation (NSF) — may offer a model for other states and nations.

It is a "reverse production" system that designs infrastructure to recover and reuse every material contained within e-wastes — metals such as lead, copper, aluminum and gold, and various plastics, glass and wire. Such a "closed loop" manufacturing and recovery system offers a win-win situation for everyone, meaning less of the Earth will be mined for raw materials, and groundwater will be protected.

But this simple concept requires a lot of brand new thinking, says Jane Ammons, a professor in the School of Industrial and Systems Engineering and a governor-appointed member of the Georgia Computer Equipment Disposal and Recycling Council. She and colleague Matthew Realf, an associate professor in the School of Chemical Engineering, are devising methods to plan reverse production systems that will collect e-trash, tear apart devices ("de-manufacture it"), and use the components and materials again — all while making the process economically viable.

The project is building on other research that Ammons and Realf are conducting. Their fundamental work in reverse production systems has been repeatedly funded by the NSF, and Ammons' related research is also funded by the as NSFs one of four ADVANCE chair professors at Georgia Tech.

ADVANCE is a program to improve the career success of women faculty in science and engineering, and the chaired professors are serving as mentors for younger women faculty in their schools. Also, Ammons and Realf are applying their findings from

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www.whistle.gatech.edu
Biomechanical device creates new options for bypass surgery

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Biomedical engineers at Georgia Tech are testing a device that, when implanted, mechanically lengthens an existing artery in patients preparing for coronary artery bypass surgery (CABG). The lengthened artery, when harvested and used as a graft, has the potential to greatly improve the long-term outcomes of bypass patients.

Designed to stimulate growth in the gastroepiploic artery — a small, disease-free artery about 3-7 millimeters in diameter and located below the stomach — the device has shown to be effective in lengthening arterial tissue in pigs by as much as 30 centimeters — enough for a patient to undergo at least two CABG procedures, researchers say.

The patented process has been coined “distraction angiogenesis” by lead scientist Ray Vito, who holds dual appointments in the School of Mechanical Engineering and the Department of Biomedical Engineering.

Vito is president and CEO of Medanoia Medical Inc., a company he formed in 2001 along with Jack Griffis to develop, manufacture and market the device. The process is similar to distraction osteogenesis — a process that has been used clinically since the 1950s to lengthen bones, especially in the legs and face.

The work recently caught the attention of the Wallace H. Coulter Foundation, which awarded Vito the 2002 Coulter Award for Innovation and Entrepreneurship on Nov. 1. The award recognizes a technical achievement likely to have a significant impact on healthcare delivery and comes with a $100,000 grant to assist his company in bringing the technology to market.

“The long-term outcome of coronary bypass surgery is critically dependent on the graft that is used,” Vito said. “The consensus among surgeons and cardiologists is that arterial grafts are preferable to venous grafts [veins] because they stay open much longer. However, the human body has a very limited supply of arterial tissue that can be harvested without consequence to the patient. Distraction angiogenesis increases the supply of arterial tissue suitable for use as grafts.”

Coronary artery bypass surgery is among the most common operations performed to bypass a blockage. Clogged arteries are often caused by a buildup of fat, plaque or cholesterol. According to American Heart Association statistics, 336,000 people underwent coronary artery bypass surgery in the United States in 1998.

Traditionally the surgery requires opening the chest and taking blood vessels from either the calf (saphenous) vein or chest (internal mammary) artery and detouring them around, or “bypassing,” the clogged arteries to improve the supply of blood and oxygen to the heart.

However, many patients aren’t candidates for these solutions, either because the tissue is unsuitable for grafting or it has already been harvested for a previous surgery. Additionally, up to 35 percent of patients lack sapheneus veins or other suitable conduits. It is this class of patients that stand to benefit from the new device, Vito said.

The evidence supporting the superiority of arteries as conduits for CABG procedures is overwhelming,” Vito said. “Distraction angiogenesis is a relatively simple way of increasing the supply of autologous arterial tissue without compromising the perfusion of healthy tissue. An arterial revascularization is cost effective and could dramatically reduce the need for further treatment.”

Vito and Griffis plan to continue testing and improving the device during the next year, followed by clinical trials. The team hopes to receive FDA approval and bring the product to market within five years.

Annual toy drive to be in memory of Isenhour

Members of the Student-Athlete Advisory Board will sponsor a toy drive at the Yellow Jackets’ Nov. 9 football game against Florida State University. The toy drive will be held in memory of the late Michael Isenhour, the former Tech basketball player and Student-Athlete Advisory Board member who died in June following a nine-month battle with leukemia.

Despite his illness, Isenhour spearheaded this past year’s drive, which benefited families that lost loved ones during the Sept. 11, 2001, terrorist attacks. In honor of Isenhour, the Student-Athlete Advisory Board this year chose to make the toy drive an annual event to benefit children affected by cancer.

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For more information...

www.dnr.state.ga.us/dnr/p2ad/
them are at the peak of their career, they’re getting gray hair. They are going to be retiring in the next five or ten years. This opens up new opportunities for Georgia Tech to achieve greater diversity at the senior levels of our staff, and it opens up new opportunities for career advancement,” said Clough. In order for Georgia Tech and its mid-level managers to be ready when that time comes, the Institute has to continue to increase the caliber and excellence of its staff by hiring the very best and most qualified individuals available. For its part, Georgia Tech will need to strengthen its reputation as a desirable employer in the minority community in order to attract and retain a broader range of strong candidates.

“Makes feel me like what we are doing with our diversity management structure is having an impact,” said Alexander. “It provided an opportunity to be more inclusive in our discussions about developing a more diverse senior-level workforce. I think that we have to go back and look at the ideas and for minorities, minimize barriers to advancement, and improve its reputation as a good employer in the minority professional community.

This retreat is just the first step of many toward the goal of having a more diverse group of senior administrators over the next several years and just one step of many aimed at increasing the diversity of the overall staff and faculty at Tech.

“Georgia Tech’s goal is to create a campus environment of inclusion, respect and community, where diversity is not only pervasive, but is managed as a valuable asset that makes a positive contribution to every aspect of campus life,” said Clough. “For that to happen, the support for diversity concerns has to begin at the top.”

Grant to promote distance learning access for students with disabilities

An increasing number of institutions of higher education are turning to distance learning to serve their students, according to the National Center for Education Statistics. Most distance learning courses, however, are limited in accessibility and pose problems for full participation of students and instructors with disabilities. This is soon going to change.

The Southeast Disability and Business Technical Assistance Center (DBTAC), a unit of the Center for Assistive Technology and Environmental Access (CATEA) within the College of Architecture, recently received a grant from the Office of Post-Secondary Education at the U.S. Department of Education for a demonstration project to enhance access for students with disabilities to distance learning courses.

DBTAC will collaborate with two other centers at Georgia Tech — the Center for Distance Learning and the Center for Enhancement of Teaching and Learning — to provide faculty training on accessible course design. These core faculty members will be funded to create existing and new distance education programs accessible to students with disabilities.

The grant will also help fund a public-private partnership between CATEA and IDET Communications, a private company based in Atlanta, to develop a ten-module online training course designed to increase awareness about disability and accessibility issues in distance learning.

Blank Foundation provides grant to CEISMC for mentoring program

Minorities and young women in middle and high school may avoid science and math — even when they have interest and talent in those areas. A new Georgia Tech mentoring program, funded with a $50,000 grant from The Arthur M. Blank Family Foundation, aims to help these students realize their potential.

The grant will support Mentoring for Success, a pilot program for sixth through twelfth graders in the City Schools of Decatur. The Decatur students will be paired with students from Georgia Tech and the Atlanta University Center schools.

Decatur was chosen for the program because it is a good school system with a mix of students of different races and incomes, said Paul Ohme, director of the Center for Education Integrating Science, Mathematics, and Computing (CEISMC). Although the system’s test scores are solid as a whole, African-American students tend to score lower in math and science.

Also, minority students and girls do not enroll in higher-level science and math courses as frequently. The $50,000 grant is for one year, with the possibility of renewal for two years. If the program is successful in Decatur, it will be offered to other school districts in metro Atlanta.

Arthur M. Blank, a co-founder of The Home Depot and owner of the Atlanta Falcons, started the youth-focused foundation that bears his name in 1995.

Correction:

In last week’s issue, the Web site related to faculty honors contained an error. Those seeking additional information about these awards may refer to www.facultyhonors.gatech.edu.