ORS Program Helps Students Reach Their Full Potential

The School of Electrical and Computer Engineering at Georgia Tech has a long history of providing its undergraduate and graduate students with rich and varied research experiences. With the advent of the Opportunity Research Scholars (ORS) Program in 2002, undergraduate students have a unique avenue not only for conducting research, but also for professional and personal development.

The ORS program promotes student retention and success in ECE by matching undergraduate students, known as ORS scholars, with Ph.D. mentors to work on structured research projects for an entire academic year. Led by Jill Auerbach, ORS has had 95 undergraduate scholars and 40 Ph.D. mentors participate in the program since its inception eight years ago.

This year-long experience culminates in a descriptive research poster that lets students showcase their talents at various undergraduate research competitions at Georgia Tech and for industry representatives. Current ORS sponsors include the Intel Foundation, Rockwell Collins, Rockwell Automation, Semiconductor Research Corporation (SRC), SAIC, Northrop Grumman, and the National Science Foundation.

Each ORS student maximizes their experience at Georgia Tech in ways that are most valuable to them, whether that means getting into a top graduate school or becoming more attractive to a prospective employer. “While ORS attracts some of our best students, it benefits students who need to improve academically because of the support structure of the ORS program,” Ms. Auerbach said. “Taking part in ORS enhances the academic experience by connecting course material to lab work and real life applications.”

In addition to ongoing research, scholars and graduate student mentors are required to attend monthly enrichment workshops that address topics like how to present and sell research ideas, improving communication skills, and learning the fundamentals of research documentation and ethics. Scholars are sometimes invited to present their findings at professional research conferences, and they also represent ECE at formal events and meetings hosted by the School, such as the ORS Poster Banquet, held at the end of spring semester.

“ORS provides a community for students and makes Georgia Tech and a large school like ECE feel smaller,” Ms. Auerbach said. “The scholars are really engaged with each other and with graduate student mentors, faculty, and staff. It is my hope that we are instilling a mentorship mentality in our ORS students, regardless of what they choose to do in their careers.”

Future plans call for ORS program scholars to work with graduate student mentors at the Georgia Tech-Lorraine campus in Metz, France. In addition, SRC is sponsoring two ORS students to attend TECHCON 2010: Technology and Talent for the 21st Century, to be held September 13-14 in Austin, Tex. Ms. Auerbach noted that the support of the ECE administration has been crucial to the success of the ORS program, as has its program coordinator, Julie Ridings, and past and present ORS scholars and mentors. For more information about the program, visit www.ece.gatech.edu/enrichment/ors.
Retaining Our Best and Brightest

The School of ECE has never had any trouble attracting exceptional students. Our undergraduate and graduate students are truly some of the most talented young people at any institution in the world. It is vitally important that once we recruit them that we give them every possible opportunity to succeed in Tech’s rigorous academic environment. In this column, I’d like to highlight two innovative approaches to meeting this retention challenge and enriching the undergraduate educational experience: the Opportunity Research Scholars (ORS) program and the Transfer Initiative for Engineering Scholars (TIES) program.

ORS combines a structured undergraduate research experience, PhD student mentorship and skill-based workshops. At the heart of the model is a community of research groups where each group pairs three undergraduate students with a PhD mentor who is actively engaged in a research project. Each program component is strategically designed to enhance the academic experience of the undergraduate research scholars. The ultimate goal is to help scholars be competitive contenders for graduate school admission and/or career opportunities.

This model was first developed and implemented in 2002 with a small grant from Intel Foundation as a retention program for underrepresented minority and female students in electrical and computer engineering. Now in the eighth year, the program mission has expanded beyond improved retention to increased graduate school attendance, and the target population is not limited to underrepresented minority and female students (although several efforts are made to encourage these students to apply). The size of the program has grown significantly from 5 to 15 undergraduate research groups, engaging 43 Scholars and 15 graduate mentors and currently receives funding from four industry sponsors, supplemental National Science Foundation (NSF) funding from awards of participating faculty, and student research awards from Institute-level sources. Evidence of the success of this program lies in its receipt of the 2010 Innovative Program Award from the Electrical and Computer Engineering Department Heads Association.

TIES is another retention program of which ECE can be proud. Compared to ORS, TIES is a more recent activity. Funded after a competitive review process by the NSF’s Scholarships in Science, Technology, Engineering, and Mathematics program, this program is designed to support community college students transferring into ECE. During the academic year, TIES programming includes faculty and industry mentoring, access to designated teaching assistants, individualized advising and exposure to research laboratories, and undergraduate research opportunities. In addition to support programs, TIES offers scholarships of up to $10,000 per year for academically talented community college transfer students in computer engineering and electrical engineering who demonstrate financial need. Approximately 90 TIES scholarships will be provided during the life of this program.

During the academic year, TIES provides transfer students with program opportunities designed specifically to assist with the transition from the community college environment to Georgia Tech and to promote long-term academic success. TIES programming includes:

- graduate student mentors
- interaction with corporate partners and industry mentors
- academic advising and assistance
- program/career counseling
- professional development activities, lab tours, and research opportunities

These efforts have already begun to pay off, as ECE students participating in TIES received internship positions at Brookhaven National Laboratory in 2009 and 2010.

Enriching the experience of our undergraduates is a critical priority for ECE. The ORS and TIES programs are just two examples of our efforts in this area and two of the ways we endeavor to fulfill our mission to provide educational programs that produce graduates who are well-prepared to enter and assume leadership roles in the profession.

The Georgia Tech ECE Opportunity Research Scholars Program (ORS) has been named the 2010 recipient of the ECEDHA Innovative Program Award. The award was presented to Jill Auerbach (pictured above), ORS program director, at the Electrical and Computer Engineering Department Heads Association (ECEDHA)/Eta Kappa Nu Awards Banquet on March 15 in Clearwater Beach, Fla.

The ECEDHA Innovative Program Award is given to individual(s) or department(s) that create, implement, and sustain a successful innovative program and possibly assist in the implementation of that program at other institutions. Congratulations to Jill Auerbach, Julie Ridings, and all past and present ORS scholars and mentors who have made this program such a success!
Romberg Wins Top National Awards

CE Assistant Professor Justin K. Romberg has been honored with two top national awards—the 2009 Packard Fellowship for Science and Engineering and the Presidential Early Career Award in Science and Engineering (PECASE).

Dr. Romberg is one of 16 researchers from across the United States to receive a 2009 Packard Fellowship for Science and Engineering. The fellowship consists of an unrestricted research grant of $875,000 from the David and Lucile Packard Foundation.

Dr. Romberg will use funding from the Packard Fellowship to develop theory, algorithms, and hardware for next-generation acquisition systems by exploiting underlying signal structures. He is particularly interested in linking the role that randomness plays in efficient data acquisition to its role in solving large-scale inverse problems. This work will influence the design of both the hardware and software used in next-generation acquisition systems, and has the potential to affect application areas as diverse as radar electronic intelligence, seismic imaging, acoustic source localization, and computer graphics rendering.

Honored first with an Office of Naval Research Young Investigator Award, Dr. Romberg was nominated for the PECASE Award by the U.S. Department of Defense. He was among 100 recipients of this accolade named by President Barack Obama last summer and was honored at the White House in January. The PECASE funding will be applied to his research on the mathematics of data acquisition. He is mainly interested in how randomness can actually help in data acquisition, potentially reducing both the cost and computational complexity of high-resolution sensing systems. This work will influence the design of next-generation analog-to-digital converters, radar imaging platforms, and MRI systems.

A recipient of three electrical engineering degrees from Rice University, Dr. Romberg is the second ECE faculty member to earn a Packard Fellowship and the sixth to receive a PECASE Award.

James R. Carreker Distinguished Lecture

William P. (Bill) Sullivan Delivers Annual Carreker Lecture

William P. (Bill) Sullivan—president and CEO of Agilent Technologies, Inc.—delivered the ninth annual James R. Carreker Distinguished Lecture on April 1. Titled “Global Megatrends for the Coming Decades,” Mr. Sullivan discussed the history of Agilent and how the company contributes to the electronic and bioanalytical industries. Several global megatrends present not only new measurement challenges, but may also profoundly affect the way that people live and work. These megatrends include the rise of Asia, the spread of infectious disease, food safety, and the environment.

Mr. Sullivan spent the day with ECE faculty and students in the microsystems, nanotechnology, optics and photonics, electromagnetics, and bioengineering areas. To view the video of Mr. Sullivan’s talk, visit the ECE web site at www.ece.gatech.edu/media and click on the video archive section.
King Joins ECE Advisory Board

Wayt King, Jr. (BEE ’81, MSEE ’82) joined the ECE Advisory Board last fall. Composed of mostly alumni representatives, the Board provides ongoing external perspectives on the School’s programs and formally meets twice per year.

Mr. King worked for 11 years in satellite communications with EMS Technologies, Inc. as a design engineer, program manager, and marketing manager. He then enrolled in law school, earning a J.D. degree from the University of Georgia in 1996, and was a technology lawyer with Atlanta law firms Alston & Bird and King & Spalding.

Mr. King co-chaired the Georgia Tech 25th Reunion Committee for the Class of 1981 and was appointed to the Georgia Tech Academy of Distinguished Engineering Alumni in 2006. For the past several years, he has advised and invested in several Atlanta startup technology businesses. He was a founding partner in 2009 in Shotput Ventures, a technology startup funding/mentoring firm that launches capital-light web services companies. Mr. King recently returned to practicing law as a partner with FSB Legal, a 55-attorney next-generation law firm.

Hubbarth Named New ECE Development Director

Martina Emmerson Hubbarth joined the ECE staff as director of development for alumni relations at the end of March. She succeeds Marci Reed, who held this position until last November.

Ms. Hubbarth’s focus will be on individual major gift fundraising with local ECE alumni. She joins two ECE-based development staff members, Etta Pittman, director for corporate relations, and Deborah Milliner, gift resource coordinator, in the School.

For the last four years, Ms. Hubbarth has worked in the Georgia Tech Development Office and was most recently the regional director responsible for working with Georgia Tech alumni who live and work in the mid-Atlantic states and the Washington, D.C. area. Prior to her arrival at Georgia Tech, she worked in development at Georgia State University.

Ms. Hubbarth graduated from the University of Florida in 2001, where she earned her bachelor of science degree in business administration, with a major in marketing.

2010 College of Engineering Alumni Award Winners

The 2010 College of Engineering (CoE) Alumni Awards Ceremony was held on March 19 at the Georgia Tech Hotel and Conference Center. At this event, CoE Dean Don Giddens inducted new members into the Engineering Hall of Fame, the Academy of Distinguished Engineering Alumni, and the Council of Outstanding Young Engineering Alumni. Six of which are ECE alumni.

Academy of Distinguished Engineering Alumni

This award recognizes alumni for significant contributions to the profession, the Institute, and society at-large. Recipients are highly placed executives who are involved in engineering, management, industry, academia, or government.

Roland G. “Kelly” Caldwell, BEE ’88
CEO and President, Caldwell Trust Company and Trust Companies of America
Venice, Fla.

Randall E. Poliner, BEE ’77
President, Antares Capital Corporation
Melbourne, Fla.

Pedro Ray, BEE ’82, MSEE ’83
President, Ray Engineers
Old San Juan, PR.

Council of Young Engineering Alumni

This award recognizes alumni under age 40 who have demonstrated exemplary professional accomplishments within their profession, field, or organization. These recipients are considered future leaders in the profession.

Keefe Bohannan, BEE ’95
Applications Engineer and District Manager for North America, Agilent Technologies
Alpharetta, Ga.

Vivek Maddala, BEE ’95
Composer, Tadcaster Studios
Los Angeles, Calif.

Mary A. Spio, MSEE ’99
Founder, Gen2Media
Orlando, Fla.
Harris Corporation Commits $2 Million to Van Leer Renewal Project

ECE has received a $2 million commitment from the Harris Corporation to help support a capital campaign for construction of a new ECE headquarters facility and the renovation of the 47-year-old Van Leer Building, where some 7,000 students receive instruction each year.

The company will donate $500,000 each year for four years beginning in 2010—the anticipated completion date of the Georgia Tech Foundation’s private fund drive for the new facilities. The Harris gift is intended for construction of an auditorium or other similar space.

G.P. “Bud” Peterson, president of Georgia Tech, and Howard L. Lance, chairman, president, and CEO of Harris, signed an agreement for the donation during a special ceremony at the Harris Customer Briefing Center in Melbourne, Fla. The event also included a reception attended by Harris employees who are Georgia Tech graduates and by other university representatives.

“Our faculty and students are currently scattered across 10 buildings around the campus, the Van Leer classrooms are outdated, and the building lacks adequate laboratory facilities,” said Gary S. May, professor and Steve W. Chaddick School Chair of ECE. “Clearly, this generous lead gift from Harris Corporation provides significant momentum for the school’s long-term capital needs and helps to create a new presence that will serve us well in the 21st century.”

Harris has a decades-long partnership with Georgia Tech and ECE, which is the largest producer of electrical and computer engineers by degree in the nation. The company employs nearly 200 of the school’s graduates.

In addition to this $2 million gift, Harris has donated some $280,000 to the university since 2006. This includes a five-year, $250,000 pledge for a research lab in the Nanotechnology Research Center, and another $30,000 to support various ECE programs.

Agilent Makes $40 Million EDA Software Donation

The Georgia Electronic Design Center (GEDC) at Georgia Tech received $40 million in EDA software, support, and training from California-based Agilent Technologies, Inc. The gift was an unprecedented in-kind gift for the facility and ECE.

The multi-year commitment, which begins this year and continues through 2012, marks the second phase of Agilent’s work with GEDC. The company made a similar in-kind gift in 2007 of EDA software and tools valued at $13 million.

This new agreement further develops the relationship between Georgia Tech and Agilent and provides an outlet for smaller start-up companies to gain access to Agilent EDA software and technologies through GEDC. The Agilent EDA Simulation Center currently provides RF, microwave-system, and circuit-design instruction and research for students and start-up companies.

This second phase of the Georgia Tech-Agilent partnership also introduces Agilent Student Liaisons, two graduate research assistants who deliver software training and coordinate and supervise research projects that utilize Agilent software and tools. These types of collaborations are vital as Georgia Tech seeks to strengthen ties with both the business and technology community.

“Throughout its history, much of the strength of Georgia Tech has come from successful partnerships with business and industry,” said G.P. “Bud” Peterson, Georgia Tech president. “Agilent has and continues to be a leader in the development of electronic, biomedical, and nano electronics. Strategically Agilent and Georgia Tech, with our new Marcus Nanotechnology Research Center, our ongoing work in the field of biomedical engineering, and our growth in mixed-signal analysis, have a great deal in common and work together well.”
2010 Roger P. Webb Awards

On April 26, the School of ECE held its ninth annual Roger P. Webb Awards Program. Georgia Power Vice President Leslie Sibert (BEE ’85) and Kimberly-Clark Vice President Bob Stargel (BEE ’83) hosted the event, which honors the students, staff, and faculty who have shown exceptional dedication to their professions and studies. Support for this event was provided by the ECE Advisory Board and AREVA NP.

STUDENT AWARDS

Outstanding ECE Sophomore Award: Sean Austen McGee
ECE Junior Scholar Award: Michael Shin Chyr Lu
ECE Undergraduate Research Award: Sean Sanders
Most Outstanding ECE Senior Co-op Award: George Macon
Outstanding Service to Georgia’s Community Award: Shruti Gupta
ECE Faculty Award: Andrew Blackburn
Outstanding Electrical Engineering Senior Award: Andrew Blackburn
Outstanding Computer Engineering Senior Award: Duncan Osborn
ECE Senior Scholar Award: Samuel Coogan, Timothy Guglielmo, Waleed Hamied, Eleazar Kenyon, Jacob McNamee, Peng Xu, Michael Baxter, Christopher Gurley, Brian Ouellette, Mark Reed

Colonel Oscar P. Cleaver Awards: Reza Pourabolghasem, Jordan Greenlee
ECE Graduate Teaching Assistant Excellence Award: Talha Khan
ECE Graduate Research Assistant Excellence Award: Suk Choi, Aravind Kailas

STAFF AWARDS

Hats Off Performance Award: Kristen Anderson, Jacqueline Trappier
Research Spotlight Award: Canek Fuentes-Hernandez
Academic Spotlight Award: Michael Laughter

FACULTY AWARDS

Outstanding Junior Faculty Member Award: Xiaoli Ma
ECE Outreach Award: George Riley
Richard M. Bass/Eta Kappa Nu Outstanding Teacher Awards: Shyh-Chiang Shen, Linda Wills
ECE Distinguished Mentor Award: Monty Hayes
Distinguished Faculty Achievement Award: Paul Steffes
Research in the News

Visit www.ece.gatech.edu/media/news to learn more about these research projects. These stories originated from the ECE Communications Office and the Georgia Tech Research News and Publications Office. Research photos by Gary Meek.

Radar Prototype May Provide Global Climate Change Clues

The National Aeronautics and Space Administration (NASA) has awarded $2.4 million to ECE Professor John Papapolymerou to develop a new type of radar system that will be used to study the Earth’s ice and snow formations from the air. The system could provide new information about the effects of global climate change.

A technological first, the small, lightweight, low-cost phased-array radar will use silicon-germanium (SiGe) chips in tandem with radio-frequency micro-electromechanical systems. The system being developed by Dr. Papapolymerou and his team could be mounted on aircraft or satellites to enable high-quality mapping of ice and snow formations.

Using SiGe Electronics Could Reduce Spacecraft Cost and Weight

Space environments can deliver a beating to spacecraft electronics. For decades, satellites and other spacecraft have used bulky and expensive shielding to protect vital microelectronics—microprocessors and other integrated circuits—from space radiation.

Led by ECE Ken Byers Professor John D. Cressler, Georgia Tech researchers are developing ways to harden the microchips themselves against damage from various types of cosmic radiation. With funding from NASA and other sponsors, they are investigating the use of SiGe to create microelectronic devices that are intrinsically resistant to space-particle bombardment.

Korean Government, Georgia Tech Partner to Create Digital Multimedia Devices

Georgia Tech has formed an historic partnership with the Korean government, industry, and universities to develop and design the next generation of digital devices that let users start and participate in digitally connected communities.

Awarded a $9 million contract through the 2008 KORUS Tech Program, Georgia Tech is the first U.S. university chosen by the Korean government to lead one of its R&D programs.

These technologies will be developed on a hybrid graphics processing unit–central processing unit platform at the KORUS Research Center for Informersive Systems, led by Jongman Kim, an ECE assistant professor based at Georgia Tech-Savannah.
Faculty News

Miroslav M. Begovic now serves as treasurer for the IEEE Power and Energy Society. He is serving a two-year term that ends in December 2011.

Maysam Ghovanloo received the Gold Tower Award for Faculty Communicator of the Year at Georgia Tech. He was recognized for his ongoing efforts to promote the Tongue Drive System, an assistive device for severely disabled people. The system was validated through its first clinical trials last summer at the Shepherd Center in Atlanta. Dr. Ghovanloo also received an NSF CAREER Award for his project, "Brain-Tongue Computer Interface," which will continue building and improving upon the existing Tongue Drive System. He and his research team were also honored with the Barrier Breaker Award from the Tommy Nobis Center, a Marietta, Ga.-based organization that aims to develop and provide job training, employment and vocational support for youth and adults with disabilities, and other barriers to employment.

Gary G. Gimmestad was awarded the rank of Fellow in the American Association for the Advancement of Science “for distinguished contributions to atmospheric remote sensing, particularly in lidar instrumentation and measurement techniques.” A principal research scientist in the Electro-Optical Systems Laboratory of the Georgia Tech Research Institute, Dr. Gimmestad is a longtime, adjunct faculty member with both ECE and the School of Earth and Atmospheric Sciences.

Ayanna Howard was one of four lecturers chosen for the Armstrong Endowment for Young Engineers-Gilbreth Lecture Series. She made her presentation at the National Academy of Engineering 2010 National Meeting on “Robot Learning: Humanized Intelligence for Space and Field Robotics,” which took place on February 16 in Washington, D.C.

New Faculty

Matthieu Bloch, Assistant Professor
Engineering Degree in Information Science ’03, Supélec
MSECE ’03, Georgia Tech
PhD Engineering Science ’06, Université de Franche-Comté
PhD ECE ’08, Georgia Tech
Area: Telecommunications

Dr. Bloch joined the ECE faculty at the Georgia Tech-Lorraine campus last August after working for a year as a postdoctoral research associate at the University of Notre Dame. His research interests are in the areas of communications and information theory, error-control coding, wireless communications, and quantum cryptography. Dr. Bloch is a co-author of a book, Physical-Layer Security: From Information Theory to Security Engineering, which will be published by Cambridge University Press later this year.

Carlos S. (Santiago) Grijalva, Associate Professor
EE degree ’94, Escuela Politécnica Nacional (Ecuador)
MSc certificate ’97, Escuela Politécnica del Ejército (Ecuador)
MSEE ’99, University of Illinois at Urbana-Champaign
PhD EE ’02, University of Illinois at Urbana-Champaign
Area: Electrical energy

Dr. Grijalva joined the ECE faculty after working for seven years with PowerWorld Corporation, where he was the principal developer of the Integrated Topology Processing®, Optimal Power Flow for Reserves®, and Topology Error Detection modules of the Simulator® software suite. This package is used by utilities, control centers, and universities in more than 60 countries. From 2003-04, he was also a postdoctoral fellow in power and energy systems at the University of Illinois, and from 2005-07, he was an invited professor at Escuela Politécnica Nacional in the Department of Electrical Engineering.

Bernard Kippelen has been named the founding editor of Energy Express, a new special bi-monthly supplement to Optics Express, the open-access journal of the Optical Society of America. The publication launched in April 2010 and focuses on research that encompasses the science and engineering of light and its impact on sustainable energy development, the environment, and green technologies.

Gary May received the 2010 Outstanding Alumni Award in Electrical Engineering from the Department of Electrical Engineering and Computer Sciences at the University of California at Berkeley, where he earned his M.S. and Ph.D. in 1988 and 1991, respectively. He was presented with this honor May 17 at the Letters and Science Computer Science Commencement at UC Berkeley. Dr. May was also elected to the office of secretary-treasurer for the Electrical and Computer Engineering Department Heads Association Board of Directors.

John Papapolymeros received the 2010 John Kraus Antenna Award, given by the IEEE Antennas and Propagation
Georgia Tech was one of only six U.S. universities to have five of its faculty members elevated to the rank of IEEE Fellow, the most at any academic institution in the United States. The five Georgia Tech faculty members promoted to IEEE Fellow, effective January 1, were as follows:

**David A. Bader**
Professor in the College of Computing, “for contributions to parallel algorithms for combinatorial problems and computational biology.”

**Ian T. Ferguson**
Adjunct ECE professor at Georgia Tech and ECE department chair at the University of North Carolina at Charlotte, “for the development of semiconductor materials and devices for infrared and ultraviolet sensor applications.”

**Richard A. Hartlein**
Director and management board chair for the National Electric Energy Testing Research and Applications Center in ECE, “for contributions to standards and analytical techniques for underground power cable systems.”

**David C. Keezer**
ECE professor, “for contributions to high-speed digital test technology.”

**Emmanouil M. (Manos) Tentzeris**
ECE professor, “for contributions to three-dimensional conformal integrated devices for wireless communications and sensing.”

The following faculty members were presented with awards at the Georgia Tech Faculty Staff Honors Luncheon on April 15:

- **John D. Cressler** Class of 1940 W. Howard Ector Outstanding Teacher Award
- **Benjamin B.D. Klein** Class of 1940 W. Roane Beard Outstanding Teacher Award
- **Ajeet Rohatgi** Outstanding Achievement in Research Innovation Award
- **Emmanouil M. (Manos) Tentzeris** Senior Outstanding Undergraduate Research Mentor Award

**Fumin Zhang** received an NSF CAREER Award for his project entitled “Feasibility of Control Tasks-Towards Control-Computing-Power Co-Design.” With this award, he will advance control theory to understand and adjust the behaviors of control tasks supported by embedded computing devices and batteries. Dr. Zhang also received an Office of Naval Research Young Investigator Award for his project entitled “Generic Environmental Models for Agile Marine Autonomy.” With this award, he will establish a fundamental research program to lay out the theoretical foundation for agile marine autonomy—the capability of unmanned systems to make fast responses to changes in a marine environment. Dr. Zhang also received a 2010 Lockheed Inspirational Young Faculty Award for his K-12 outreach work at the Georgia Tech-Savannah campus.
Medical Device Startup Company Wins Georgia Tech Edison Prize

A Georgia Tech startup company being formed to commercialize a new device that could help prevent pressure ulcers in hospital and nursing home patients has won the first Georgia Tech Edison Prize. The $15,000 prize will help launch the new company, which will be known as Multispectral Imagers.

Treatment of pressure ulcers costs an estimated $8 billion each year in the United States alone, but the painful skin injury can be prevented if detected early. The device, a hand-held multispectral imaging system that provides data in real-time, could be used by health care professionals to detect signs of pressure ulcers before they can be seen with conventional visual screening techniques–especially in patients with darker skin.

The device would be marketed to clinics, nursing homes, rehabilitation centers, hospitals, and other facilities that treat patients whose mobility problems can result in development of pressure ulcers. In addition to the medical applications, the device may also have military, agricultural, manufacturing, and environmental uses.

ECE Graduate Student “Imagines” Ways to Help Others

Shayok Mukhopadhyay, an electrical engineering graduate student at Georgia Tech-Savannah, and fellow members of Coders, Inc., were among 10 teams to take part in the 2010 U.S. finals for the Microsoft Imagine Cup in Washington D.C. April 23-26. Coders, Inc. also won the People’s Choice Award, an honor decided by votes received over the Internet from the general public.

The Imagine Cup competition empowers students to use technology, innovation, and creativity to help solve some of the world’s most challenging social issues outlined in the United Nations’ Millennium Development Goals.

Mr. Mukhopadhyay worked with two students from the Illinois Institute of Technology, Yamini Girey and Krishna Rao, to create AwareNet, a web site and social media enterprise/network where non-governmental organizations, volunteers, donors, and vendors can interact and share resources. AwareNet could play a vital role in emergency response, such as for ongoing efforts in Haiti, he said.

“If this project becomes a central repository that people readily refer to, it can become invaluable,” noted Mr. Mukhopadhyay, who is advised by ECE Assistant Professor Fumin Zhang. “People do not need computers to access the Internet–phones do the job now. If there were common people in the midst of a crisis like Haiti, the information coming in would be first hand and accurate and almost instantaneous, enabling organizations to better coordinate and plan rescue operations.”

“Even if our project does not become anything huge in the future, I am happy that this competition is bringing people together to think about such things,” he concluded. “Maybe some of the ideas will succeed and make a better future for all.”
Rich Yost (MSEE ’75, PhD ’78) has received the highest engineering rank at Harris Corporation.

Jerry Bellott (MSEE ’80) works with RF Extreme in Hackettstown, N.J., where he works on MPEG2 and MPEG4 COFDM microwave products for the military, government, and broadcast industry. He also serves as vice chair of the Princeton IEEE Signal Processing Society chapter. When possible, he enjoys visiting the Georgia Tech campus and has fond memories of IEEE activities and classes with John Peatman, Ron Schafer, Russ Mersereau, and Cecil Alford.

Katherine Taylor (BEE ’84, MSEE ’86, PhD ’91) has been accepted into the M.D. program at the Morehouse School of Medicine in Atlanta.

Leslie Sibert (BEE ’85) was one of 12 Atlanta area female executives who were honored at the Business to Business Women of Excellence Honors Luncheon last summer.

Julie Ellis (BEE ’80, MSEE ’82) has been named head of the Department of Engineering at Western Kentucky University.

Roger Pease (BCmpE ’95) received an IEEE Houston Section Young Engineer of the Year Award. Mr. Pease is a Texas Instruments employee where he studies the effects of Alpha particles on semiconductor memories. An active IEEE volunteer, he works with the Teacher In-Service Program and is an active advocate for the Texas Scholar’s Program in Fort Bend County schools.

Jeff Hildreth (BEE ’96, MSEE ’02) received the Technology Innovation Award for his work and expertise in high voltage testing and measurements from the Bonneville Power Administration, a U.S. Department of Energy-funded agency.

Alantria Harris (BEE ’02) completed her M.B.A. at the Ross School of Business at the University of Michigan and relocated to Cincinnati to work for Procter & Gamble, where she is associate manager in consumer and market knowledge for the Clairol brand.

Rosa Younessi (BSEE ’05) is a semiconductor account executive with a San Francisco-based company and regularly travels to Japan to better understand the global trade. She also wishes to pursue acting in the future.

Tyrone Pelt (MSECE ’06) has passed the Fundamentals in Engineering (PE) Exam. Congratulations, Tyrone! 

Rutledge Appointed to Top UMBC Post

Janet Rutledge (MSEE ’84, PhD ’90) has been tapped as vice provost and dean of the Graduate School at the University of Maryland at Baltimore County, where she leads the university’s efforts in graduate education. Before joining UMBC, Dr. Rutledge taught at Northwestern University and worked at the National Science Foundation. She has held numerous leadership positions in UMBC’s Graduate School, including acting dean of the Graduate School and interim vice provost before assuming the position permanently. She is also on the faculty of the Department of Computer Science and Electrical Engineering at the university.

Amit Bavisi (PhD ’06) is a senior RF module design engineer at Fujitsu Microelectronics America in Gilbert, Ariz.

Christian Michelson (MSECE ’09) is a research engineer with the Defensive Systems Branch of the Electronic Systems Laboratory at the Georgia Tech Research Institute, where he is developing systems to help keep military aircraft safe from RF and missile threats.

Muhammad Shakeel Qureshi (PhD ’09) works with HP Research Labs in Santa Clara, Calif. He is the proud father of Ameerah Rafa who was born last August.

To submit your information and news, visit www.ece.gatech.edu/alumni
Spring Semester at ECE

FIRST LEGO League Participants Make “Smart Moves”

On January 23, 48 student teams gathered at the Georgia Tech Student Center to compete in the State of Georgia FIRST LEGO® League Tournament. The event is coordinated by the ECE Student-Faculty Committee and the Center for Education Integrating Science, Mathematics, and Computing and is staffed by student, faculty, and staff volunteers from Georgia Tech and the community as a whole.

This year’s Challenge theme was “Smart Move,” which gave students aged 9 to 14, a chance to build and program LEGO MINDSTORMS robots that most efficiently transport people and goods through communities. This year’s winning team was RoBUGS (pictured below), a home-schooled team from Henry County.

ECE Career Fair: A Big Hit for Employers, Students

Held on January 19 at the Klaus Building Atrium, the ECE Career Fair was a tremendous success, with over 40 companies taking part and 650 students attending. This event helps students who are entering the job market and helps to develop and sustain ongoing relationships with the School’s corporate partners.

ECESIS Now on the Web

The 2010 edition of ECESIS, the School’s creative webzine, is now online. Take a look at the writing, artistic, and musical talents of our students, faculty, and staff at www.ece.gatech.edu/ecesis/2010/. For more information about ECESIS, contact Michael Laughter, the group’s ECE faculty advisor, at 404.894.4894.

For the fifth year in a row, the Beta Mu Chapter of Eta Kappa Nu (HKN) received an Outstanding Chapter Award at the Electrical and Computer Engineering Department Heads Association Annual Meeting on March 15 in Clearwater Beach, Fla. In the 75 years of the program, the number of chapters receiving the Outstanding Chapter Award five years in a row is six, including the Georgia Tech chapter.

Over 300 students, faculty, and staff attended the annual Eta Kappa Nu (HKN) Spring Picnic, held on April 23 at the Glade behind the Georgia Tech President’s Home.

Eight graduate teaching assistants (GTAs) were recognized for their excellent work in the classroom with the Outstanding ECE Graduate Teaching Assistant Awards, and Shyh-Chiang Shen and Linda Wills were named the 2010 recipients of the Richard M. Bass/Eta Kappa Nu Outstanding Teacher Awards.