Alumnus Poor honored with IEEE, Princeton awards

Alumnus H. Vincent Poor, the George Van Ness Lothrop Professor in Engineering at Princeton, continues to add awards and accolades to his already impressive body of career achievements by winning major Institute of Electrical and Electronics Engineers (IEEE) education awards in 2004 and 2005, and being named founding director of the Center for Innovation in Engineering Education (CIEE) at Princeton.

Poor is the recipient of the 2005 IEEE James H. Mulligan Jr. Education Medal. This prestigious honor, which recognizes a career of outstanding contributions to education, was given for his leadership in electrical engineering education through teaching, innovative curricular development, research, and the publication of a textbook which has been described as classic.

As founding director of CIEE, Poor is responsible for developing the center into a worldwide model for excellence in engineering education. His duties also include fund-raising efforts related to educational initiatives, recruiting top candidates for the center’s faculty, and establishing collaborations with other institutions. The CIEE is part of Princeton’s School of Engineering and Applied Science.

In 2004, Poor was the recipient of the IEEE Educational Activities Board (EAB) Major Educational Innovation Award for innovation and leadership in the teaching of technical, social, political and economic aspects of technology as integral subject matter to students from diverse academic backgrounds. The IEEE EAB established this award to recognize individuals who have distinguished themselves for outstanding educational innovation in a field of interest of the IEEE.

In July 2004 he became editor in chief of the IEEE Transactions on Information Theory, the leading scholarly publication in his field.

A native of Columbus, Ga., Poor holds four degrees in electrical engineering — a bachelor’s degree (1972) and master’s degree (1974) from Auburn, and a master’s degree (1976) and doctorate (1977) from Princeton.

He was a member of the electrical engineering faculty at the University of Illinois at Urbana-Champaign from 1977 through 1990, when he joined the Princeton faculty.
His distinguished list of teaching honors and awards include Princeton's 2003 School of Engineering and Applied Science Distinguished Teaching Award; selection by Shirley Tilghman, Princeton president, to deliver a president’s lecture in 2003; election as a fellow of the American Society for Engineering Education in 2003; the 2002 National Science Foundation Director’s Award for Distinguished Teaching Scholars; and the 2001 IEEE Graduate Teaching Award. A member of the prestigious National Academy of Engineering, Poor has also been elected a fellow of five learned societies.

Perspectives from the department head

I am delighted to interact with our alumni at every opportunity, but I have always preferred to use our newsletter as a vehicle to focus on the accomplishments of our alumni, faculty and students. This issue will be no different, except that I have been persuaded that every now and then you might like to hear from me. Jo Ann Loden, our senior academic advisor, has done a wonderful job of putting together the issues of this newsletter and we are grateful for her continued help in providing you with the most up-to-date information about our program.

We are most pleased to report the accomplishments of our alumni and acknowledge the support they provide to our department as we work to strengthen it in every way possible. I give two examples: David Scobey, president of BellSouth Small Business Services, has been selected to receive the Auburn Alumni Engineering Council’s Distinguished Auburn Engineer Award this fall, and Keith Lee, president and CEO of Advantest Corporation in Santa Clara, Calif., will join the ECE Industrial Advisory Board in September.

We are fortunate to have dedicated alumni who provide continued financial support to the department, two examples being James Stewart and Leroy Wetzel. We are also blessed to have a large group of alumni that volunteers its service to the department through the ECE Industrial Advisory Board. This group of dedicated individuals, chaired by Harry Craft, provides invaluable support through its unbiased assessments and thoughtful suggestions for improvements. A full list of members can be found at www.eng.auburn.edu/ece.

To a large extent, the reputation of our program rests on the perception that others have of our alumni. In this manner, all our alumni make a contribution to the program by providing excellent examples of what our current and future students can achieve. The ECE faculty and staff strive to maintain the quality and integrity of our program to protect the value of an Auburn degree.

During the 2004-2005 year, the department graduated 159 students — 110 undergraduates, 42 master’s and six doctorates. Ten of those undergraduate degrees were in the new wireless hardware program — its first graduates. The enrollment in this program continues to rise. Now that we have graduates, we can apply for ABET accreditation. Vic Nelson is leading the charge in our efforts to get this program accredited.

Our students continue to excel in many ways. As examples, Ed Otralak was the Outstanding Graduating Student from the college in fall 2004; Andrew Sivulka was named SEC Men’s Diver of the Week for the first week in February and received honorable mention on the 2005 Academic All-American team; and John Jansen was selected as Outstanding ECE Student for 2005.

The heart of our program is our faculty, and they excel in many ways. Recently, Mark Halpin was invited to present two technical seminars at the University “La Sapienza” of Rome. We have also just learned that Mark was selected to receive the IEEE’s 2006 Charles Proteus Steinmetz Award.
Guofu Niu was appointed alumni professor in view of his excellent record of instruction, research and outreach.

Tommy Tzeng, on sabbatical in Taiwan, was selected as vice president for technology of IEEE’s Nanotechnology Council. Vic Nelson is a co-recipient of the Global Wireless Education Consortium’s Wireless Educator of the Year for 2005, and Richard Jaeger was just made an honorary professor of the Chinese Academy of Science. Clearly, our faculty are recognized worldwide and not by accident. Their stature in the global arena vastly enhances the value of a degree from our department.

While it may appear from the accolades above that all is well, that is certainly not the case. We are challenged on many fronts. We are trying to expand our graduate program and double our research program. However, we are short on money and space. We are eternally grateful to our alumni who have stepped forward to support us financially, they have been a tremendous help. For obvious reasons, the space issue will take a long time to resolve. Thus, the solutions to our problems, while not impossible, are definitely not trivial. However, we are committed to moving the department to the next level and our faculty are dedicated to that purpose.

We gladly welcome alumni visits at any time. In particular, each fall, the student branch of IEEE and the AU chapter of Eta Kappa Nu host an open house on the Saturday morning of the homecoming football game. Please come and be with us September 24 if you can. The students are always proud to show you what they are doing in their labs and would love to talk with you about what it was like when you were here and what it is going to be like for them when they graduate.

We strive to keep our Web site up-to-date and hope that you visit often at www.eng.auburn.edu/ece. It and this newsletter contain an alumni response form — please let us hear from you and let us know how you are doing. War Eagle!

Klingelhoeffer named 2004 outstanding ECE alumnus

John Klingelhoeffer was named Outstanding Electrical and Computer Engineering Alumnus for 2004. The award was presented at the alumni engineering banquet during October’s homecoming weekend.

Klingelhoeffer is president and general manager of COMSAT General Corporation, a subsidiary of Lockheed Martin, and is a vice president for Lockheed Martin Integrated Systems and Solutions Company. In these positions, he oversees a diverse technical and operational staff performing duties in satellite communications program management, marketing, engineering, procurement, accounting, and operations and maintenance. COMSAT is responsible for fixed and mobile satellite commercial, Department of Defense (DoD), and federal civil programs. His unit works daily with other international and domestic telecommunications providers to offer 24-hour global service.

After graduating from Auburn in 1975, Klingelhoeffer joined the Army as a signal corps officer. During his active duty service, he held a number of positions of increasing responsibility, including telecommunications engineer for remote sensing satellite systems, where he developed and
implemented improved national range meteorological and chemical weapon storage depot warning sensor systems. He also served on the general staff of the U.S. Army Electronics Research and Development Command, was employed at Harry Diamond Laboratories in Maryland, was a company commander at White Sands Missile Range in New Mexico, and received the Meritorious Service Medal.

From 1981 to 1987, he was the program manager for special projects with Honeywell, Inc. He managed the development of tactical and strategic secure communications systems for multiple government customers including the development of National Security Agency embedded communications security modules, secure networking protocols and terrestrial and airborne radio equipment. Later, Klingelhoeffer joined Advanced Computer Communications, Inc. as director of engineering and general manager of east coast operations, where he led the development and support efforts for intelligence community use of commercial routers and other networking equipment in worldwide data communications networks.

In 1991, he joined Alliant Techsystems as manager of information security and special operations products in charge of marketing of secure communications systems for the intelligence and DoD special operations communities. His responsibilities included transmission and security products for terrestrial and satellite communications, and he was product manager for the AN/GRC-233 SOCA V1 A-TEAM UHF satellite multiplexer and other secure communications components.

In addition to his electrical engineering degree from Auburn, Klingelhoeffer holds a master’s degree in technology management from the University of Maryland and is an avid amateur radio operator, holding an amateur extra class license.

**ECE advisory board welcomes R. Keith Lee**

During its fall meeting in September, the ECE Industrial Advisory Board will welcome R. Keith Lee as its newest member. Lee is president and chief executive officer of Advantest America, Inc., a subsidiary of Advantest Corporation.

A 1978 Auburn electrical and computer engineering graduate, Lee is an industry veteran with more than 25 years of experience with technology companies, primarily at Advantest America, which he joined in 1984. At Advantest, he held senior management positions in design and development, sales and marketing, and applications and systems engineering before being named president and CEO. Prior to Advantest, he worked for Megatest Corporation, Mitel Corporation, and AT&T in senior marketing management and engineering positions.

Advantest Corporation is one of the world’s leading automatic test equipment suppliers to the semiconductor industry, and is a producer of electronic and optoelectronic instruments and systems. A global company, Advantest serves the industry in every component of semiconductor test — tester, handler, mechanical and electrical interfaces, and software. Its logic, memory, mixed-signal and RF testers and device handlers are integrated into the most advanced semiconductor fabrication lines in the world.

Nation’s first wireless bachelor’s degrees awarded

The first graduates of the nation’s first and only undergraduate degree program in wireless engineering were awarded the Bachelor of Wireless Engineering at Auburn’s December commencement ceremony. Members of the first wireless graduating class are Mohammed Abdulmagid of Montgomery; Anthony Friday of Troy; Ron Jackson of Pensacola; John Jansen of Thomasville, Ala.; Michael Owen of Remlap, Ala.; and Saddhi Shah of Tallahassee.

Founded in 2002, Auburn’s wireless program has experienced a steady increase in enrollment. Industry leaders from companies such as Agilent Technologies, Cingular; Ericsson Research RTP, Hewlett-Packard, Motorola, Nokia, Nortel Networks, Sentinel Strategies, Texas Instruments, Verizon Wireless, and Vodafone worked closely with faculty to design a curriculum to meet the needs of students and industry.

The wireless program builds on existing broad-based curricula in the Departments of Electrical and Computer Engineering and Computer Science and Software Engineering to provide a solid foundation of electrical, computer, and software engineering fundamentals, as well as an introduction to wireless communication theories, devices, circuits, systems, networks, standards, management and applications.

Students interested in designing wireless hardware systems can choose the wireless option offered through ECE and those interested in developing software for these systems choose the wireless option offered through CSSE.

For students who would like to work with wireless service providers and other telecommunications companies, a network specialization is offered within either option. Analysis, design, testing, administration and support of wireless network systems are the focus of the network specialization.
ECE faculty credited with numerous accomplishments

Anyone familiar with the electrical and computer engineering program at Auburn is aware of the outstanding faculty behind it. But did you know that among the 32 ECE faculty members there are:

- 8 national or international teaching awards
- 31 national or international technical awards
- 13 fellows of IEEE
- 15 senior members of IEEE (not including fellows)
- 6 fellows of other professional societies
- 10 presidencies of technical societies
- 33 officers of a technical society (other than president)
- 40 chairs or co-chairs for a national or international conference
- 38 program chairs for a national or international conference
- 59 chairs for some portion of a national or international conference
- 3 ABET evaluators
- 11 editors of technical journals
- 40 associate editors of technical journals
- 8 guest editors of technical journals
- 31 members of technical society administrative committees
- 48 AU awards
- 122 patents
- 1,143 papers published in technical journals
- 2,188 papers published in conference proceedings
- 38 books written

You might also be interested to know that this faculty:

- taught 97 percent of the undergraduate ECE classes in the 2004-2005 academic year, as opposed to classes taught by teaching assistants or adjunct faculty
- teaches classes for and directs the research of 153 master’s and doctoral candidates
- averages six to eight hours per faculty member per week of office time devoted to working with students outside the classroom

Denney contributes to NIH heart research

Tom Denney, associate professor in electrical and computer engineering, has teamed with researchers at the University of Alabama Birmingham (UAB) and the Auburn University College of Veterinary Medicine to form a Specialized Center of Clinically Oriented Research (SCCOR). The center is funded for five years by an $18 million grant from the National Institutes for Health’s (NIH) National Heart, Lung, and Blood Institute.

The center will study how the heart responds to diseases such as mitral regurgitation, hypertension, and diabetes. Lou Dell’Italia, M.D., professor of cardiology at UAB’s medical center and the primary investigator on the grant, will coordinate the clinical portion of the study in which the cardiac systems of patients will be imaged periodically over time using
Denney will be the principal investigator for the center in the Samuel Ginn College of Engineering, responsible for analyzing all of the image data acquired by the center. Denney has developed techniques for quantitatively measuring how much the heart muscle contracts and other indicators of cardiac health from cardiac MRI data. This analysis, combined with the serial MRI scans, is expected to revolutionize the understanding of the heart’s response to disease.

“Our computer-based image analysis techniques can measure subtle changes in the heart’s shape and contraction that cannot be detected by other techniques,” says Denney.

He has been working on analyzing cardiac MRI data since he started as an assistant professor at Auburn in 1994, and Dell’Italia is one of the first cardiologists to use MRI to image the heart. They had never met, however, until they worked together on a proposal for another researcher at UAB.

“Lou liked my visualizations of how the heart’s contraction pattern changes after a heart attack, and he asked me to do the same analysis for the SCCOR proposal,” adds Denney.

That was just the beginning. The SCCOR proposal is more than 400 pages of preliminary data and research plans. The proposal is reviewed by a panel of researchers from other institutions and assigned a priority score. The NIH then funds the proposals in order of priority.

One of the reasons for the success of the proposal was the system of core collaborators — groups of researchers who process data from all three projects for consistency. The core areas provide state-of-the-art technology, foster interactions between investigators, accelerate the pace of research, help translate basic research findings to clinical applications, and ensure a productive research effort.

“In addition to consistency of data, the idea of the core set-up is to get the best person for the job,” says Dell’Italia. “It makes more sense for engineers to study the geometry of the heart and for cardiologists to relate these findings to patient symptoms and treatment. We have pathologists studying tissues, scientists studying cells in the lab, and veterinarians treating and studying dogs with heart failure.”
Three members of the electrical and computer engineering faculty have been named fellows of the IEEE. Charles (Chuck) Stroud, Yonhua (Tommy) Tzeng, and Mark Halpin, Alabama Power Distinguished Professor, were among 268 IEEE senior members named as fellows effective January 1. The IEEE has more than 365,000 members in approximately 150 countries.

According to its Web site, the IEEE grade of fellow “is conferred by the board of directors upon a person with an extraordinary record of accomplishment in any of the IEEE fields of interest. The total number selected in any one year does not exceed one-tenth of one percent of the total voting membership.”

**Stroud**, who came to AU from the University of North Carolina at Charlotte in 2003, was recognized for contributions to Built-In Self-Test (BIST) of integrated circuits. His professional involvement includes associate editor for BIST for the *Journal of Electronic Testing: Theory and Applications*, vice program chair of the IEEE North Atlantic Test Workshop, and member of the technical advisory board of DAFCA, Inc., an electronic design automation software company.

A researcher with more than a dozen patents to his credit, Stroud has garnered numerous awards for excellence in instruction. He teaches undergraduate classes in digital logic and digital system design and graduate classes in computer-aided designs of digital circuits, among other topics.

**Tzeng**, a 22-year veteran of Auburn’s Department of Electrical and Computer Engineering, was named IEEE fellow for contributions to diamond manufacturing processes.

Among his institutional and professional services are IES representative for the IEEE Nanotechnology Council, founder and organizer of the NanoCarbon Conference, and founder and organizer of the Applied Diamond Conference. His awards include the National Science Foundation Japan Fellowship in 1991 and an alumni professorship in 1989.

Tzeng teaches undergraduate classes in electronics and elective and graduate classes in plasma and nanotechnology. As a result of his research in applied diamond technology and related areas, he holds or co-holds at least eight patents.

**Halpin**, recognized as an IEEE fellow for contributions to remote power quality measurements and standards, joined the ECE faculty in 2002 and in 2003 was named the Alabama Power Company Distinguished Professor.

Among his professional services are vice president of the IEEE Industry Applications Society, vice chairman of the IEEE-PES Power Quality Subcommittee, vice chairman to the IEEE Standards Association SCC-22 (Power Quality), and chairman of the IEEE-IAS Power Systems Engineering Committee. His awards include the IEEE Millennium Medal and the IEEE Industry Applications Society Outstanding Young Member in 1997.

Halpin’s research interest is electric power systems. He teaches undergraduate, elective, graduate and outreach courses in power.
Hung receives Walker Teaching Award

John Hung received the Walker Merit Teaching Award at the Samuel Ginn College of Engineering awards luncheon held on the Auburn campus in March. A member of the ECE faculty since 1989, Hung has received numerous teaching awards including Outstanding ECE Faculty Member in 1997 and 2001, the Fred H. Pumphrey Teaching Award in 2001, and the College of Engineering’s SGA Outstanding Faculty Member for 2001.

Hung chairs the ECE Control Systems Stem, the ECE laboratory committee, the ECE Teaching Effectiveness Committee, and serves on the ECE Curriculum Committee. A senior member of IEEE since 1993, he is treasurer of the IEEE Industrial Electronics Society and associate editor of IEEE Transactions on Industrial Electronics.

The Walker teaching awards were endowed by Mr. and Mrs. Fred Birdsong Sr. and are chosen from college-wide nominations.

Students name Wentworth as outstanding faculty

Auburn ECE students selected Stuart Wentworth as Outstanding ECE Faculty Member of 2005, Wentworth’s fourth such honor. His other teaching awards include the Birdsong Merit Teaching Award, the Fred H. Pumphrey Outstanding Teaching Award, and Outstanding Faculty Member for the College of Engineering.

Wentworth is the author of an electromagnetics textbook now in use. “Fundamentals of Electromagnetics with Engineering Applications”, published by John Wiley & Sons, Inc., was developed to fit the Department of Electrical and Computer Engineering’s emphasis on wireless communications.
Johnson named editor of industry publication

R. Wayne Johnson, Samuel Ginn Distinguished Professor of Electrical and Computer Engineering and director of Auburn’s Information Technology Peak of Excellence, has been named editor in chief of IEEE Transactions on Electronics Packaging Manufacturing (TEPM).

TEPM is a refereed publication of the Components, Packaging and Manufacturing Society of IEEE. Articles in TEPM cover a range of topics related to the materials and processes used to manufacture electronic products.

A member of IEEE since 1977, Johnson was elected fellow of IEEE in 2004 “for contributions to electronics that must operate in harsh environments.” IEEE has a worldwide membership of more than 350,000.

Kirkici elected to IEEE technical activities post

Hulya Kirkici, associate professor of electrical and computer engineering, has been elected vice president of technical activities of the IEEE Dielectrics and Electrical Insulation Society. The IEEE-DEI Society activities involve the study and application of dielectric phenomena and behavior and the development, characterization and application of all gaseous, liquid and solid electrical insulation materials and systems utilized in electrical and electronic equipment. The society sponsors technical conferences and workshops in these areas.

Kirkici’s activities at Auburn include faculty advisor to the Society of Women Engineers (SWE), whose AU chapter was established in 1978 and has approximately 100 student members and more than 100 non-members. The chapter sponsored the 2005 Region-D Conference at the Auburn University Hotel and Dixon Conference Center in March. The two-day conference, addressing technical and student related activities, was predominantly organized and managed by students.

Kirkici teaches and conducts research in pulsed power engineering, power conditioning in space environment, vacuum breakdown, hollow cathode discharge applications, plasma physics, optical diagnostics, and lasers fields.

She is also active in the American Physical Society, Sigma Xi Scientific honor society, Eta Kappa Nu electrical engineering honor society, the American Association of University Women, and the Society of Women Engineers.

Students, faculty develop technologies in BIST lab

The basic idea of Built-In Self-Test (BIST) is to design circuits to test themselves. This technique was first proposed 25 years ago and has become one of the most important testing techniques for integrated circuits and systems.

The faculty and students of the Auburn University Built-In Self-Test (AUBIST) Laboratory have been doing groundbreaking work in BIST for relatively new but difficult-to-test technologies — Field Programmable Gate Arrays (FPGAs) and System-on-Chip (SoC) devices. FPGAs are prefabricated integrated circuits that can be reprogrammed in the system to perform any digital logic function. SoCs typically contain FPGA cores along with embedded memory and microprocessor cores.
In BIST for FPGAs, the device is reprogrammed to test itself such that no extra or dedicated circuitry is needed for testing. The results of the BIST are then used not only to determine whether these devices are faulty, but also to identify the faulty components within the device. The intended system function can then be reprogrammed to avoid the faulty components within the device to facilitate fault and defect tolerant applications.

In the past year, researchers in the AUBIST lab have moved the BIST reconfiguration and diagnostic functions into the embedded processor in SoCs such that all test and diagnosis is performed on-chip. This technique is not only self contained on the SoC for on-demand in-system test and diagnosis, but provides a 30-fold acceleration in testing over the previous approach to BIST for FPGAs.

Graduate and undergraduate students in the AUBIST have also designed and constructed a printed circuit board (see photo) for developing and demonstrating their BIST and BIST-based diagnostic approaches for FPGAs and SoCs. The printed circuit boards contain two different SoCs, each consisting of an embedded processor with program and data memories along with different size FPGA cores. This research is sponsored by a contract from the National Security Agency and a grant from the U.S. Army Space and Missile Defense Command.

The research effort is directed by Chuck Stroud, who joined the ECE faculty in 2003. A graduate of the University of Kentucky (BSEE 1976, MSEE 1977) and the University of Illinois at Chicago (PhD EE and CS 1991), Stroud spent 15 years in industry as a distinguished member of the technical staff at Bell Labs, where in 1981 he became one of the first people to work in the area of BIST.

Stroud developed the first BIST for RAMs, the first completely self-testing integrated circuit, the first BIST for mixed-signal systems, and the first BIST for FPGAs. He holds 13 U.S. patents in the area of BIST and is author of a recent book entitled “A Designer’s Guide to Built-In Self-Test.” He was named fellow of IEEE in 2005 “for contributions to built-in self-test of integrated circuits.”

Palmer rewarded for spirit of excellence

Each month, Auburn University presents Spirit of Excellence Awards to four employees recognized for exceptional performance. Mike Palmer, engineering associate and manager of the Laboratory for Electronic Assembly and Packaging in the Center for Advanced Vehicle Electronics, received the award in January.

Papers presented at international conferences

In addition to the numerous papers authored and presented by faculty, some members of the ECE staff are also very active in research resulting in published works. Robert Dean, a doctoral candidate and research associate with the Center for Advanced Vehicle Electronics, had two papers presented at international conferences. The papers resulted from research sponsored by NSF through Morgan Research Corporation in Huntsville.

“Active Micromachined Vibration Isolation Filters using Electrostatic Actuation to Enhance Packaging for Mechanically Harsh Environments” by Robert Dean; George Flowers, Ken MacAllister and Roland Horvath (mechanical engineering); Wayne Johnson, A. Scotteward Hodel and Nicole
Sanders (electrical and computer engineering); and Michael Kranz and Michael Whitley (Morgan Research Corporation, Huntsville) was presented at the International Microelectronics and Packaging Society’s International Conference and Exhibition on Device Packaging in Scottsdale in March.

The paper presents an approach for active vibration isolation packaging, to deal with high frequency mechanical vibrations encountered by missiles, rockets and some industrial machinery in harsh environments by integrating a micromachined electrostatic actuator with a micromachined mechanical lowpass vibration isolation filter, in order to realize a tunable filter structure. Although the electrostatic actuator can be used to adjust the filter resonant frequency, the primary application is for increasing the damping to an acceptable level. The physical size of these active filters is suitable for use in or as packaging for sensitive electronic and MEMS devices requiring vibration isolation. The resulting electromechanical system-in-a-package allows for optimum system performance through allowing the use of state-of-the-art components in mechanically harsh environments which otherwise could result in problems ranging from an increased noise floor to component failure.

“Damping Control of Micromachined Lowpass Mechanical Vibration Isolation Filters using Electrostatic Actuation with Electronic Signal Processing” by Robert Dean; George Flowers, Ken MacAllister and Roland Horvath (mechanical engineering); Wayne Johnson, A. Scotteward Hodel and Nicole Sanders (electrical and computer engineering); and Michael Kranz and Michael Whitley (Morgan Research Corporation, Huntsville) was presented at the International Society for Optical Engineering’s International Symposia on Smart Structures and Materials in San Diego, also in March.

The paper presents an approach for realizing active micromachined mechanical lowpass vibration isolation filters by integrating an electrostatic actuator with the micromachined passive filter structure to realize an active mechanical lowpass filter. The physical size of these active filters is suitable for use in or as packaging for sensitive electronic and MEMS devices, such as MEMS vibratory gyroscope chips.

Sivulka named SEC diver of the week

Andrew Sivulka, a senior in wireless engineering from Ann Arbor, Mich., was named the Southeastern Conference Men’s Diver of the Week for the first week in February.

Sivulka won the three-meter springboard competition during Auburn’s victory over Florida State. His total of 370.95 is the second-best non-invitational score of the season in the SEC. He followed that with a 329.70 on the one-meter to finish second to teammate Matt Bricker. This is Sivulka’s first career recognition by the conference.

In July, Sivulka was also named an honorable mention Academic All-American by the Collegiate Swim Coaches Association of America, one of 17 members of Auburn’s swimming and diving team to receive recognition by the association.

Niu earns distinction of alumni professor

Provost John Heilman has announced the appointment of ECE faculty member Guofu Niu to an alumni professorship.

The appointment is for a five-year term effective at the start of the 2005-2006 academic year. Alumni professorships are awarded on the basis of the professor’s accomplishments in instruction, research and outreach. Five faculty members are named to alumni professorships each year.
The professorships are funded by the Auburn Alumni Association and provide each recipient with an annual supplement of $3,500. The appointments are made by the president after a recommendation by a selection committee.

Niu earned bachelor’s, master’s and doctoral degrees in electrical engineering from Fudan University in Shanghai, China, where his graduate work included developing numerical simulators and compact models for SiGe HBTs and FETs, Monte Carlo simulation of transport properties in a 2-D electron gas, SOI devices, and statistical circuit simulation.

In 1997 he came to Auburn University as a postdoctoral fellow, where he conducted research on SiGe HBT, SiGe MOSFETs, radiation effects, low-temperature electronics, and SiC devices. In 2000, he joined the ECE faculty as associate professor and was promoted to professor in 2004. His present research activities include SiGe devices and circuits, RF design, noise, linearity, single-event effects, SiC power devices, and TCAD.

Niu has published more than 80 papers related to his research, and has served as a reviewer for technical journals including IEEE Transactions on Electron Devices, IEEE Electron Device Letters, IEEE Transactions on Microwave Theory and Techniques, IEEE Microwave and Guided Wave Letters, and IEEE Transactions on Nuclear Science. He has served on the program committee of the IEEE Bipolar/BICMOS Circuits and Technology Meeting, IEEE Nuclear and Space Radiation Effects Conferences (NSREC), IEEE Hong Kong Electron Devices and Solid-State Circuits Conference, and IEEE Asia-South-Pacific Design Automation Conference.

He received the T.D. Lee Physics Award in 1992 and 1994, and a best student paper award at the International Application Specific Integrated Circuits Conference in 1994. Niu is listed in Who’s Who in America and is a senior member of IEEE.

Halpin receives international engineering award

Mark Halpin has been selected to receive the 2006 Institute of Electrical and Electronics Engineers (IEEE) Charles Proteus Steinmetz Award, presented annually to an individual for exceptional contributions to developments and advancements in electrical and electronics engineering.

The Alabama Power Company Distinguished Professor since 2003, Halpin is a fellow of IEEE and serves in leadership positions in a number of the group’s working committees. In 1997, he was named outstanding young member and in 2000 received a millennium medal. He joined IEEE in 1988 as a student member. IEEE consists of more than 365,000 members in more than 150 countries.

Halpin participates in cultural exchange to Italy

The engineering faculty of the University “La Sapienza” of Rome, Italy invited Mark Halpin to deliver two technical seminars dealing with short circuit analysis and power system harmonics.

The seminars, organized for the students of the doctoral program in electrical engineering and the students of the electrical engineering specialist degree program, were held May 18 and 25. Professional engineers also took part in the seminars.

In cooperation with the University “La Sapienza”, the seminars were sponsored by the Association of Italian Electrical Engineers and the Professional Engineers Association of Rome.
Elton Hopper ’67 recently retired from his civil service position as Air Force chief engineer for Foliage Penetration Radar at Wright-Patterson Air Force Base in Ohio. The civil service position followed a 20-year career as an Air Force officer in research and development for airborne radar technology supporting F-22, F-16 B1B and other aircraft.

Eric Britt ’85 is vice president of Morgan Stanley in Little Rock. He and his wife Jan, also an ’85 AU alum, have two children, Ben and Marie.

Joy Menefee Spangler ’89 and husband Chris welcomed their son Zachary Charles Spangler, born March 4, 2005. The Spanglers also have a daughter Zoë, two and a half. In addition to her BEE from Auburn, Menefee Spangler holds an MBA from Kenan-Flagler Business School at UNC-Chapel Hill. The Spanglers live in Atlanta.

Hong Tan ’89, ’95 is president and chief technical officer of ForteBio, Inc. in Menlo Park, Calif., a biotech company specializing in bio-molecular detection and analysis systems. Prior to joining ForteBio, he was president and CEO of Wave Crossing Corp., a fiber optic component and MEMS company.

Sal Marino ’91 and Paula (Revels) ’92, ’95 celebrate the arrival of their daughter, Salena Louise, born January 31. She joins big sister Olivia, two.

Kathy Clark Redman ’94 and husband Kevin (’94 ME) welcomed a daughter, Emily Grace, on December 14. Emily has two brothers, Patrick, five, and Matthew, two. The Redmans live in Sycamore, Ill.

Muhammad Bakir ’99 earned his doctorate from Georgia Tech in 2003 and is employed with Georgia Tech as a research engineer in the Microelectronics Research Center.

Sheri Brown ’00 and her husband Sean have three children and reside in Jacksonville.

Michael Hamilton ’00 and his wife Brandi are parents to daughter Sydney Allison Hamilton, born August 19. Michael is working toward his doctorate at the University of Michigan in Ann Arbor.

John (Mickey) Harper ’04 lives in Huntsville where he works for Teledyne Brown Engineering.

Ed Otralek from Alexander City was named Outstanding Graduating Student of the Samuel Ginn College of Engineering for the fall 2004 semester. J. David Irwin (left), ECE department head, presents the award at the graduation reception in Broun Hall in December.
The Department of Electrical and Computer Engineering would like to hear from you!

Please send news and address changes to:
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☐ Equipment donation
☐ Speaker for IEEE meeting

Larry Benefield, dean of engineering (right), presents the 2005 Outstanding ECE Student Award, an honor bestowed by ECE faculty, to John Jansen at the engineering awards luncheon in March.