The Georgia Tech Alumni Association's European Branch Holds Its Inaugural Meeting

On December 3, 2002, over 80 Georgia Tech alumni residing in Europe gathered at the Maison de la Lorraine in Paris, to celebrate the initiation of the Georgia Tech Alumni Association Europe. The meeting was hosted by Joseph Irwin, vice president and executive director of the Georgia Tech Alumni Association. Jean-Lou Chaneaue, Georgia Tech’s provost, and Hans P. Tjigen, president of Georgia Tech Lorraine (GTL).

This new association was established to create a venue for expatriates to maintain a closer connection with the Institute and the community of graduates living in Europe. George Griffin of the Alumni Association said, "The alumni association is fostering lifelong relationships and lifelong participation with the Institute. We are very excited about the many possibilities this new association opens up to develop programs for our European alumni. Karl Dasher, who graduated in industrial engineering in 1993, shares this excitement and vision. This new association is fantastic and something we really needed. I can see this organization promoting a greater global focus for the General Alumni Association, as we can promote European co-op opportunities, and share our experiences with global businesses."

The members of the new European branch of the Alumni Association are part of a vast network of over 300,000 Georgia Tech graduates. In conjunction with the Georgia Tech Alumni Association, the activities of the new European branch will be coordinated by GTL.

Anthony Carl (BScEng 03), Lieutenant Junior Grade, is currently training to be an Engineering Officer of the Watch (EOOW) of a nuclear propulsion plant at a nuclear propulsion plant prototype in Batavia, N.Y. After completing his training in mid-May, he will transfer to a nuclear-powered aircraft carrier.

Rongjia Guo (MSECE 02) in working part-time as a project director of a startup company in Hong Kong. His first international paper was accepted for presentation in IEE S-PMAC in 2003 to be held in Rome, Italy.

Payam Torab (BEE 02) is a project manager for The Weather Channel in Atlanta, Ga.

LaKisha Pate (MSECE 01) is engaged to marry Steven Downs (MSECE 02). She is currently an electrical engineer II with Harris Corporation in Palm Bay, Fla. and plans to attend the Wharton School of Business this fall to pursue an MBA degree in marketing and finance.

The tremendous advances in microelectronics thus far have been a story of miniaturization. Critical device dimensions that began at 25 micrometers in 1960 have been scaled down to the present value of 0.25 micrometers. These advances have enabled unprecedented, simultaneous, and exponential improvements in cost, speed, and energy of microelectronic devices.

According to James D. Meindl, director of the MiRC, the potential exists for continued, dramatic scaling down to device dimensions of 0.000,000,025 meters or 25 nanometers. With this milestone, microtechnology transitions to nanotechnology. The story from this point forward will no longer be simply one of continued, progressive miniaturization. The physical, electrical, and optical properties of materials with structural features in the range of 1 to 100 nanometers have already shown to exhibit differences that are not explained by current theories. It is anticipated that nanoscale work will enable the development of new materials and systems with dramatic new properties relevant to virtually every sector of the economy, such as medicine, telecommunications, and homeland security.

Later this year, the MiRC will add a new capability to their suite of research tools that promises to propel Tech to the absolute forefront of microm and nanotechnology research. This awesome capability is contained in a 4 million 10 nanometer electron-beam nanolithography tool, which can produce sub-10 nanometer patterns that, according to Dr. Meindl, are a decade ahead of the state-of-the-art.

A parallel and related development is forming. This year, the Board of Regents and the State of Georgia approved $45 million to support an Advanced Clean Room Building at Georgia Tech. The vision is to create a National Center of Excellence for Micro and Nanoscale Fundamental Research and Fabrication, which will serve as a catalyst for interdisciplinary research encompassing all areas of physical and biological science and engineering.

The ability to fabricate at the molecular level and to assemble large structures and systems with fundamental new properties is the promise of nanotechnology. At the 1999 National Electrical and Technology Council (NSTC) meeting, Shaping the World Atom by Atom, Neil Lane, former assistant to the President of the United States for Science and Technology stated, "If we were asked for an area of science and engineering that would most likely produce the breakthroughts of tomorrow, I would point to nanoscale science and engineering."
ACDEE: Leading the Worldwide Revolution in Education

Last fall, ECE received a $2.25 million endowment from James R. Carreker and his wife, Helen, to support ECE’s distributed education programs. With the receipt of this endowment, which was matched by a grant from the Georgia Research Alliance, the Artibus Center for Distributed Engineering Education was officially established in November 2002. Thomas P. Barnwell, newly named Artibus Distinguished Chair in Digital System Design and Georgia Research Alliance Eminent Scholar for Education, leads the Center.

The mission of the Artibus Center, formerly known as the Center for Distributed Education, is to empower and engage faculty in all aspects of the educational development process, including research for education, research for pedagogy, content creation, and the distributed delivery of education. The principal thrust of the Center since its establishment in the late 1990s has been to develop state-of-the-art distributed education programs.

Under the leadership of Dr. Barnwell, ECE has pioneered efforts in Internet course delivery that have revolutionized the way courses are taught and the way that they are delivered to local and remote student audiences. State-of-the-art programs, which incorporated the latest advances in multimedia and computer and telecommunications technology, became the hallmark of ECE’s distributed education program.

The new Artibus Center gives focus, visibility, and added impetus to the early achievements of Tim Barnwell, ECE school chair. We expect Georgia Tech to become the world leader in the advancement of enhanced methods of developing technology education to future generations of engineers.

Commenting on his motivation for endowing the Center, Mr. Carreker said, “Helen and I are pleased to help foster the advancement of engineering education through the establishment of the Artibus Center, and to leverage the existing capabilities of an in-place team of top-notch engineering educators to expand the field of classroom education into a world without boundaries, where students will be empowered to study from the leading professors at a place and time that is best optimized for the student... It is an exciting endeavor, and one that advances the reputation and impact of Georgia Tech.”

Mr. Carreker is a 1969 electrical engineering graduate who has long been active in entrepreneurial philanthropy. He has served on the ECE Advisory Board and is now a member of the Georgia Tech Advisory Board.

Alumni News

Pram Chhanoria (BSME 71) is a senior electrical engineer with Norwest Hillman Davis in Cincinnati, Ohio.

Terry Proctor (BSME 74) is a staff electrical engineer with Shell Oil in Houston, Tex.

Carl V. (Van) Mauney (BSME 75), a career naval officer, was promoted to rear admiral. Captain Mauney is serving as the executive officer for General Tommy Franks, U.S. Central Command.

Carey Fisher (BSME 76) is the chief technical officer and co-founder of New Communications Solutions, LLC (NCS). NCS, formed in 2002, is a Norcross, Ga.-based company that designs and manufactures specialized equipment for the amateur, commercial, and public safety radio communications markets. He and his family live in Duluth, Ga.

Louis Alderman (BSME 77) earned the designation of Project Management Professional by The Project Management Institute. He is currently a senior project manager in the Hewlett-Packard Company’s Managed Services Project Management Office in Atlanta, Ga.

Vaight King (BSIE 81, MSEE 82) graduated from the University of Georgia Law School in 1986 and practiced technology law at Alston & Bird and King & Spalding until 2000, when he co-founded a software company N2 Broadcast, which now has 140 employees. He currently serves as vice president and general counsel.

Jos F. Reyes-Santana (BSME 82) is with Universal Container Corporation in Cape Coral, PI.

Charles R. Rugar (BSME 82), a career naval officer, was promoted to rear admiral. Captain Rugar is serving as the executive assistant for General Tommy Franks, U.S. Central Command.

Terry Groom (MSEE 83) is an engineering manager with Arques Technology in Austin, Tex.

William B. McClure (BSME 90, MSEE 92), owner of Scalable Development, Inc. in Knoxville, Tenn., and John Croft (BSME 93), founder of New Communications Solutions, LLC (NCS), are both noted entrepreneurs.

We Want to Know! Share your news with your ECE classmates and friends. Just complete this form, clip, and mail or visit our web page at www.ece.gatech.edu/alumni and tell us online.

Name
Graduation Year
Information for ECE News (recent awards, job changes, papers, patents, etc.)
Home Address
Work Address (including company name)
Daytime Phone
Email

Mail to Suzy Briggs at the School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, GA 30332-0250.
New Faculty

Chin-Hsi Liu, Professor  
BSEE ’73, National Taiwan University  
MS Engineering and Applied Science ’77, Yale University  
PhD ’82, University of Washington  
Area: Digital signal processing and computer engineering  
Previously, Dr. Liu was a visiting professor at the School of Computer Science and Engineering, National Taiwan University (NTU). In his new position with ECE, he will continue to work with NTU by serving as the primary contact for developing the Georgia Tech-Singapore computer engineering partnership.

Prior to entering academia, Dr. Liu had over 20 years of industry experience, most recently at Bell Labs, Lucent Technologies as director of Dialogue Systems Laboratory and at Bell Labs as a distinguished member of the technical staff. A significant contributor to almost every area of speech processing, he is an IEEE Fellow and an IEEE Distinguished Lecturer.

Oliver Brand, Associate Professor  
Diplom in Physics ’90, Technical University Karlsruhe (Germany)  
Doctor of Natural Sciences ’94, ETH Zurich (Switzerland)  
Area: Microsystems  
Before coming to ECE, Dr. Brand was deputy chief physicist of the Electronic Laboratory at ETH Zurich. He was a leader in a research group of seven PhD students, and was responsible for projects in CMOS-based microsystems, MEMS fabrication technologies, and microsystem packaging.

After receiving his PhD at ETH Zurich, Dr. Brand worked at Tech as a postdoctoral fellow in the Microelectronics Research Center under the direction of Mark G. Allen and Sue Ann Bidstrup Allen. He was named member of more than 90 journal and conference publications, Dr. Brand is a technical program committee member for the 2003 IEEE International Micro Electro Mechanical Systems Conference.

Faculty News

All Adibi became the first ECE faculty member to receive a Lucile Packard Fellowship in Science and Technology in October 2002. Awarded annually by the David and Lucille Packard Foundation, the Packard Fellowship is one of the most prestigious awards for young, U.S.-based faculty in science and engineering. Dr. Adibiaily used his fellowship to study computable photonic crystals that can be adapted into ultra-small biosensors. He is collaborating with Duke University researchers to develop biosensors that measure properties such as blood alcohol and glucose or that could be made into implantation devices that deliver prescribed drugs.

All Adibi and Magnus Egerstedt both received National Science Foundation CAREER Awards in early 2003. Dr. Adibi is using his award for the project, Integrated Chip-Scale Wavelength Division Multiplexing Devices Using Photonic Crystals. That could lead to the development of a new family of photonic devices or applications. Dr. Egerstedt is using his award for the project, Linguistic Control of Motor Behavior, which takes an interdisciplinary approach to producing robots that follow easy, language-oriented instructions rather than very detailed, precise, and communication-intensive instructions currently used when controlling robots. ECE now has 11 faculty members holding active NSF CAREER Awards and has 24 current and past recipients of this honor.

Thomas P. Barnwell was named Arthur Distinguished Chair in Digital Systems Design and Research in Engineering by Georgia Tech. He is an IEEE Eminent Scholar, effective October 2002. In addition to these new appointments, Dr. Barnwell was named director of the Arthur Center for Distributed Engineering Education (see related article on page 2). The Arthur Center is blurring new trends into computer-enhanced education and instruction to students on the Atlanta campus, the Georgia Tech Regional Engineering Program (Savannah, Ga.), and Georgia Tech Lorraine (Metz, France).

Nan-Marie Johansen was named IEEE Fellow for contributions to the integration and packaging of optoelectronic devices for the realization of optical interconnections and interfaces. She was also named the recipient of the 2002 Harriet I. Barlow Award of the IEEE Education Society. The award, which is sponsored by the Hewlett-Packard Company, is administered by the IEEE Education Society as an annual recognition of the outstanding engineering faculty woman who has made a significant contribution to undergraduate education within an IEEE/ABET accredited program. Dr. Johansen received her doctorate in electrical engineering in 1984 at the University of California, Washington.

Joy Lakkar was named the 2003 Outstanding Young Alumni of the College of Engineering and Science at Clemson University in February 2003. Dr. Lakkar, whose parents were both Clemson faculty, graduated with a PhD degree in computer engineering in 1985, and then earned his MS and PhD degrees in engineering management from the University of Illinois at Urbana-Champaign in 1989 and 1991, respectively.

Ajeet Rohatgi received the 2003 William R. Cherry Award at the Third World Conference on Photovoltaics, held in May 2003. Named in honor of William R. Cherry, a founder of the Photovoltaics Research Group, the Cherry Award is presented for highest achievement in the area of PV science and technology.

Gordon L. Stüber received the 2003 IEEE Vehicular Technology Society (VTS) James R. Evans Avant Garde Award for his outstanding and continuing contributions in promoting new technology in the field of vehicular communications and technology.

Emmanuel M. Tentzeris received the 2003 IEEE Components, Packaging, and Manufacturing Technology Society Young Engineer of the Year Award. The first Georgia Tech faculty member to receive this award, Dr. Tentzeris was recognized for his technical contributions in patent invention, technology or product development, and his large number of innovative and groundbreaking publications.

ECE Sponsors FIRST LEGO League Competition

Under the leadership of Professor Jeff Davis and a corps of undergraduate ECE student volunteers, Georgia Tech sponsored the states inaugural FIRST LEGO League robotics competition in November 2002 at Atlanta’s Tech Museum. The first annual competition served as inspiration and recognition of Science and Technology, and an innovative international program sponsored by the LEGO Company aimed at inspiring and celebrating science and technology for children ages 9-12.

ECE’s involvement in this program began two years ago when an ECE Student-Faculty Committee decided to adopt the FIRST LEGO League program as a venue for reaching out to Georgia’s elementary and middle school age students. From the first year pilot project to the second year competition, the ground work was set for the official beginning of Georgia’s participation in this worldwide competition last fall, which drew 16 teams statewide.


The John P. Uyemura Memorial Fund has been established by the ECE community of students, faculty, and staff to provide financial assistance for the future education of his daughters, Christine and Valerie. Donations to this fund can be made to any bank of Wachovia Bank, 33 North Paces Ferry Road, Atlanta, Ga. 30305, Attn: Christine Parks. Please refer to account #15112189.

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CmpE/CS Career Fair Attracts Corporate, Student Interest

Despite a down economy, 40 companies attended the 10th annual Computer Engineering/Computer Science (CmpE/CS) Career Fair, held on February 5, 2003. The companies saw 1,006 students majoring in computer science, computer engineering, and electrical engineering during the one-day fair, jointly hosted by ECE and the College of Computing.

The fair was anchored by several of the strongest supporters of the two units, notably Harris, Hewlett-Packard, IBM, Lockheed Martin, and Microsoft.

Additionally, the public sector and defense-related industries were strongly represented at the fair, reflecting the current demands in these sectors of the economy.

The CmpE/CS Career Fair was started in the early 1990s to provide additional exposure and opportunities for students from Georgia Tech studying for computer science and ECE degrees and is held during the first month of the spring semester. During the last 15 years, the event grew to two days with over 100 companies participating in consecutive years. While attendance has diminished over the past few years, the companies attending say that this fair is one of the key recruiting events on their calendar.

Second Annual ECE Awards Program a Huge Success

On April 23, 2003, ECE held its second annual award program at the Student Center Ballroom. The Honorable Daniel A. Webster (BEE 71), Florida State Senator representing the 9th District, and C. Dean Alford (BEE 76), ECE Advisory Board Chair, presented the award to Lyle Crump-Florczak, Ph.D., Director of Allied Utility Network, who hosted the program.

These awards were supported in part by the following alumni and friends: Senator Webster, Mr. Warren Batts, Mr. and Mrs. Joel Spira, and Mr. and Mrs. Tom Quigley.

ECE Employees Recognized at the April 9 Georgia Tech Faculty/Staff Honors Luncheon Vice Provost for Research Special Recognition Award

Class of 1984 Distinguished Professor Award

Kevin B. Brennan

Class of 1974 Howard Ector Outstanding Teacher Award

Al Adibi

Outstanding Continuing Education Award

Moman H. Hayes

Class of 1964 Outstanding Interdisciplinary Activities Award

William D. Hunt

Class of 1964 Outstanding Innovative Use of E ducation Technology

James H. McMillan, Ronald W. Schaffer

Outstanding Doctoral Thesis Advisor Award

Martin A. Brook

Outstanding Faculty Leadership For the Development of Graduate Research Assistant Program

Madhavan Swaminathan

Outstanding Staff Performance Award

Jackie Namerith

ECE Students Recognized at the April 16 Georgia Tech Student Honors Day

Georgia Engineering Foundation Senior Design Award

Nathan Clewer

Ober Guernsey

Kay Hill

Jean-Marc Merolla

International Engineering Consortium/William E. Vest Student Awards of Excellence

Patrick Boyd

Wing See Mona Wong

Henry Ford K Scholar Awards

Justin Kline

William Raj

Steven Sanders

Georgia Tech Society of Black Engineers Faculty Advisor E xcellence Award

Daryl J. Ward

ASEE Systems Graduate Minority Engineering Award

Eric J. Oettinger

Braeuner Scholarship Cup

Brian Patrick Boyd

James G. and Mary C. Vinoff Scholarship Awards

James Robert Massey

Jonathan Scott Cudnik

HAYNES JOINS ECE ADVISORY BOARD

ECE has added Leonard J. Haynes, BEE 72, as its newest member to the School’s Advisory Board. Mr. Haynes joined the board in Spring 2003. He currently is the executive vice president and chief marketing officer for the Southern Company, headquartered in Atlanta, Ga. Mr. Haynes joined the Southern Company in 1977 and has previously held executive and management positions in marketing and power delivery at both Georgia Power and the Southern Company.

In Memoriam

In March 2003, the School of ECE lost a longtime board member. John W. Pope, BEE 69 MSEE 70, passed away after a two-and-a-half year battle with multiple myeloma. He was the director of bulk power engineering at ECE, Georgia Tech.

The College of Engineering has established three awards in honor of outstanding alumni.

HALL OF FAME

Sharon C. Mewborn, BEE 56

Claude A. Petty, Jr., BEE 50

ACADEMY OF DISTINGUISHED ENGINEERING ALUMNI

Michael J. Buckler, BEE 71, MSEE 71

Joseph R. Bynum, BEE 69, MSNE 71

John H. Davis, BEE 62

Lynn C. Maddox, BEE 64

Michael R. McQuade, Ph.D.

Joey L. Tharitam, BEE 72, MSEE 73

COUNCIL OF YOUNG ENGINEERING ALUMNI

Bill Blackstock, BEE 86

Kah-Hsin Cheng, Physics 92

H. Alan Mantooth, Ph.D.

Scott Potter, BEE 84

Outstanding Doctoral Thesis Advisor Award

Ismail Baskaya

Zesheng Chen

Gavin Ho

Guanglei Liu

Ramanan Bairavasubramanian

Chris Wieczorek

Ismail Baskaya

Zesheng Chen

Guanglei Liu

Hoyt Coffee Memorial Award for Writing

James Robert Massey

Jonathan Scott Cudnik
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These awards were supported in part by the following alumni and friends: Senator Webster, Mr. Warren Batts, Mr. and Mrs. Joel Spira, and Mr. and Mrs. Tom Quigley.

STUDENT AWARDS

Outstanding Sophomore Award: Ryan Josee Peki
Outstanding Junior Award: David Richard Reid
Outstanding Senior Award: Brian Patrick Boyd
Outstanding ECE Senior Co-op Award: Alim Arif Khanbourah
Outstanding ECE Senior Award: Brian Patrick Boyd
Outstanding ECE Student Award: Monsoon H. Hayes
Outstanding Doctoral Thesis Award: Martin A. Brooker
Outstanding Faculty Leadership: Assistant Professor Ashutosh Garg

ECE Students Recognized at the April 16 Georgia Tech Student Honors Day

Georgia Engineering Foundation Senior Design Award: Hakan Cen
Student Awards of Excellence: C. Dean Alford* and P. D. Murray (BEE ’71), Florida State Senator representing the 9th District, and C. Dean Alford (BEE ’76), ECE Advisory Board Chair, welcomed the over 200 professors, CEOs of Allied Utility Network, hosted the program.

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New Faculty

Chin-Hui Lee, Professor
ECE 73, National Taiwan University
MS Engineering and Applied Science 77, Yale University
PhD 81, University of Washington
Area: Digital signal processing and computer engineering
Previously, Dr. Lee was a visiting professor at the School of Com-
tech at the National University of Singapore (NUS). In his new
position with ECE, he will continue to work with NUS by serving
as the primary contact for developing the Georgia Tech Singapore
Technology and Innovation (GaSTiN) partnership.

Prior to entering academia, Dr. Lee had over 20 years of in-
dustry experience, most recently at Bell Labs, Lucent Technolo-
gies as director of Dialogue Systems Research and at Bell Labs,
AT&T as a distinguished member of the technical staff. A signifi-
cant contributor to almost every area of speech processing, he is an
IEEE Fellow and an IEEE Distinguished Lecturer.

Oliver Brand, Associate Professor
Diploma in Physics 90, Technical University Karlsruhe (Germany)
Doctor of Natural Sciences 94, ETH Zurich (Switzerland)
Area: Microsystems
Before coming to ECE, Dr. Brand was deputy chief of the Phys-
ics Laboratory at ETH Zurich. He was a lecturer, led a re-
group of seven PhD students, and was responsible for
projects in CMOS-based microsystems, MEMS fabrication tech-
nologies, and micromachining.

After receiving his PhD at ETH Zurich, Dr. Brand worked at
Tech as a postdoctoral fellow in the Microelectronics Research
Center under the direction of Mark G. Allen and Sue Ann Bid-
strum Allen.

The author of more than 90 journal and conference publi-
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Faculty News

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Packard Fellowship in Science and Technology in October 2002.
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the Packard Fellowship is one of the most prestigious awards for
young, U.S.-based faculty in science and engineering. Dr. Adibi
told The Daily Tar Heel that he could be used to develop
photonic devices that could lead to the development of a variety of products.
Dr. Egerstedt is using his award for the project, Limb-Activated
Vehicles: Patterns of Movement, that could lead to the development of
an artificial limb for amputees.

Dr. Brand is a technical program committee member for
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ECE Sponsors FIRST LEGO League Competition

The ECE community of students, faculty, and staff
was forever diminished when Professor John P.
Uyemura passed away suddenly from cardiac
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Dr. Uyemura joined ECE in 1978, after completing his
degree at the University of California at Berkeley,
where he also earned his master’s and bachelor’s degrees in
electrical engineering. During his nearly 25 years with
Tech, Dr. Uyemura made his indelible mark on a personal as well as intellectual level. He helped develop ECE ac-
demic programs in integrated circuits, fiber optics, and
VLSI design, and played a key role along with the late Carl
Verber in developing ECE’s Fiber Optics Instructional Lab-
oratory. A prolific writer, Dr. Uyemura authored six text-
books in the areas of digital integrated circuits, VLSI cir-
cuits and systems, and CMOS integrated circuits. Widely
recognized as standards in these fields, his textbooks have
been translated into several languages and have been adopted by the world’s top academic institutions.

Known with great affection and respect as the
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group of seven PhD students, and was responsible for
projects in CMOS-based microsystems, MEMS fabrication tech-
nologies, and micromachining.

After receiving his PhD at ETH Zurich, Dr. Brand worked at
Tech as a postdoctoral fellow in the Microelectronics Research
Center under the direction of Mark G. Allen and Sue Ann Bid-
strum Allen.

The author of more than 90 journal and conference publi-
cations, Dr. Brand is a technical program committee member for
the 2003 IEEE International Micro Electro Mechanical Systems
Conference.

ECE Sponsors FIRST LEGO League Competition

Under the leadership of Professor Jeff Davis and a corps of undergraduate ECE student volun-
tees, Georgia Tech sponsored the states inaug-
ural FIRST LEGO League robotics competition in
November 2002 at Atlanta’s SteThom museum. The
first for Georgia Tech, this competition is for young stu-
dents in grades K-12.

ECE’s involvement in this program began two years earlier, when the ECE Student-Faculty Committee decided to
adopt the FIRST LEGO League program as a venue for
reaching out to Georgians of all ages. The annual competition is open to all school age students. From
the first year pilot project to the second year most compelling, the ground-
work was set for the official beginning of Georgia par-
icipation in this worldwide competition last fall, which
was a success.

First Place winners, Niki Georgia, Argonauts (from left) Jennifer Mertens, Kathleen Mertens, David Roberts, Tad Pieper, and Tony Ippolito (from) D. J. Fletcher.
ACDEE: Leading the Worldwide Revolution in Education

Last fall, ECE received a $2.25 million endowment from James R. Carrekker and his wife, Helen, to support ECE’s distributed education programs. With the receipt of this endowment, which was matched by grants from the Georgia Research Alliance, the Arbutus Center for Distributed Engineering Education was formally established in November 2002. Thomas P. Barnwell, newly named Arbutus Distinguished Chair in Digital System Design and Georgia Research Alliance Eminent Scholar for Education, leads the Center.

The mission of the Arbutus Center, formerly known as the Center for Distributed Education, is to empower and engage faculty in all aspects of the educational development process, including research for education, research for pedagogy, content creation, and the distributed delivery of education. The principal thrust of the Center since its establishment in the late 1990s has been to develop state-of-the-art distributed education programs.

Under the leadership of Dr. Barnwell, ECE has pioneered efforts in Internet course delivery that have revolutionized the way courses are taught and the way that they are delivered to local and remote student audiences. State-of-the-art programs, which incorporated the latest advances in multimedia and computer and telecommunications technology, became the hallmark of ECE’s distributed education program.

The new Arbutus Center gives focus, visibility, and added impetus to the early achievements of Tom Barnwell, said Roger P. Webb, ECE school chair. We expect Georgia Tech to become the world leader in the advancement of enhanced methods for delivering technical education to future generations of engineers.

Commenting on his motivation for endowing the Center, Mr. Carrekker said, “Helen and I are pleased to help foster the advancement of engineering education through the establishment of the Arbutus Center, and to leverage the existing capabilities of an in-place team of top-notch engineering educators to expand the field of classroom education into a world without boundaries, where students will be empowered to study from the leading professors at a place and time that is best optimized for the student...It is an exciting endeavor, and one that advances the reputation and impact of Georgia Tech.”

Mr. Carrekker is a 1969 electrical engineering graduate who has long been active in entrepreneurial philanthropy. He has served on the ECE Advisory Board and is now a member of the Georgia Tech Advisory Board.

Alumni News

Prem Chandra (BSEE 71) is a senior electrical engineer with Novercon/Silicon Valley in Cincinnati, Ohio.

Terry Proctor (BSEE 74) is a staff electrical engineer with Shell Oil in Houston, Tex.

Carl V. (Van) Mauney (BSEE 75), a career naval officer, was promoted to rear admiral. Captain Mauney is serving as the executive officer for General Tommy Franks, U.S. Central Command.

Carey Fisher (BSEE 76) is the chief technical officer and co-founder of New Communications Solutions, LLC (NCS) NCS, formed in 2002, is a Norcross, Ga.-based company that designs and manufactures specialized equipment for the amateur, commercial, and public safety radio communications markets. He and his family live in Duluth, Ga.

Louis Alderman (BSEE 77) earned the designation of Project Management Professional by The Project Management Institute. He is currently a senior project manager in the Hewlett-Packard Company’s Managed Services Project Management Office in Atlanta, Ga.

Vaughn King (BEE 81, MSE 82) graduated from the University of Georgia Law School in 1986 and practiced technology law at Alston & Bird and King & Spalding until 2000, where he co-founded a software company N2 Broadband, which now has 140 employees. He currently serves as vice president and general counsel.

Jos F. Reyes-Santana (BEE 82) is with Universal Container Corporation in Cary, NC.

Charles R. Rogers (BEE 84) became a registered principal with National Securities Corporation in Richmond, Va., where he is a financial advisor for wealth management.

Terry Groom (MSEE 87) is an engineering director with Arques Technology in Austin, Tex.

Wallace B. McClure (BSEE 82, MSE 91), owner of Scalable Development, Inc in Knoxville, Tenn., and John Croft (BSEE 93) are non-commissioned officers in the U.S. Black Engineer of the Year Award distinction of Most Promising Scientist. This award is issued by the National Society of Black Engineers, which is dedicated to the advancement of African-American engineers. This award is given in recognition of notable contributions to the engineering profession and to the advancement of higher education in engineering.

Jos F. Reyes-Santana (BEE 82) was named Outstanding Achiever at the NASA Marshall Center in August 2002. This Director’s Commendation Award was presented during a Women’s Equality Day ceremony, where Ms. Jackson was recognized for her technical ability, creativity, and leadership in the Aerospace Department at the Marshall Center in Huntsville, Ala.

Muhammad I. (Mike) Iqbal has been with the Marshall Center since 1988, and currently serves as the Avionics Lead System Engineer for vehicle integrated performance analysis activities on NASA’s Space Launch Initiative. Ms. Iqbal has worked on many of the Marshall Center’s top programs, providing power and propulsion design, engineering development, and testing and documentation for the Shuttle Columbia Space Telescope and the Chandra X-ray Observatory.

Ms. Iqbal said, “Seeing Tech gave me what I needed to meet the challenges of the workforce. In making this statement, I was not only referring to the technical engineering education that she received. While I was at Tech, I learned to work with people and came to appreciate the importance of teamwork. This is something that I have carried with me throughout my career. I know that I can accomplish anything without the support and cooperation of those I work with. I learned the roots of this first hand at Tech.”

M. Brian Blake (BSEE 94) was recently awarded the National Black Engineer of the Year Award distinction of Most Promising Scientist. This award is issued by the National Society of Black Engineers, which is dedicated to the advancement of African-American engineers. This award is given in recognition of notable contributions to the engineering profession and to the advancement of higher education in engineering.
High Tech Becomes Small Tech: The Emergence of a New Technological Frontier

he invention of the transistor and the integrated circuit marked the genesis of microelectronics and set the stage for the unprecedented technological advances of the 20th century. Indeed, it is said that no invention in the history of humanity has spread so quickly throughout the world, or so profoundly pervaded so many aspects of human existence as the microprocessor.

ECE and its associated research centers have been at the forefront of microelectronics research and have led the charge in this technological revolution. The establishment of the Microelectronics Research Center (MiRC) enabled Georgia Tech to recruit pre-eminent scholars, create national centers of excellence in semiconductor research, and facilitate interdisciplinary, multi-university and university-industry collaborations. Further, the establishment of the Packaging Research Center (PRC) by the National Science Foundation and its subsequent designation as a national Engineering Research Center (ERC) by the National Academy of Engineering marked the emergence of another crucial process in microelectronics at Tech. Led by ECE Professor Rao Tummala, the PRC is the largest university-based research and education center in the nation, focusing on next-generation system-level microelectronic packaging, system integration, and packaging paradigms.

The tremendous advances in microelectronics thus far have been a story of miniaturization. Critical device dimensions that began at 25 micrometers in 1960 have been scaled down to the present value of 0.25 micrometers. These advances have enabled unprecedented, simultaneous, and exponential improvements in cost, speed, and energy of microelectronic devices.

According to James D. Meindl, director of the MiRC, the potential exists for continued, dramatic scaling down to device dimensions of 0.000,000,0025 meters or 25 nanometers. With this milestone, microtechnology transitions to nanotechnology. The story from this point forward will no longer be simply one of continued, progressive miniaturization. The physical, electrical, and optical properties of materials with structural features in the range of 1 to 100 nanometers have already shown to exhibit differences that are not explained by current theories. It is anticipated that nanoscale work will enable the development of materials and systems with dramatic new properties relevant to virtually every sector of the economy, such as medicine, telecommunications, and homeland security.

Later this year, the MiRC will add a new capability to their suite of research tools that promises to propel Tech to the absolute forefront of micro and nanotechnology research. This awesome capability is contained in a $4 million 10 nanometer electron-beam nanolithography tool, which can produce sub-nanometer patterns that, according to Dr. Malend, are a decade ahead of the state-of-the-art.

A parallel and related development is taking form. This year, the Board of Regents and the State of Georgia approved $45 million to support an Advanced Clean Room Building at Georgia Tech. The vision is to create a National Center of Excellence for Micro and Nanoscale Fundamental Research and Fabrication, which will serve as a catalyst for interdisciplinary research encompassing all areas of physical and biological science and engineering.

The ability to fabricate at the molecular level and to assemble large structures and systems with fundamentally new properties is the promise of nanotechnology. At the 1999 National Science and Technology Council (NSTC) meeting, Shaping the World Atom by Atom, Neil Lane, former assistant to the President of the United States for Science and Technology stated, If we were asked for an area of science and engineering that would most likely produce the breakthroughs of tomorrow, I would point to nanoscale science and engineering.

Model drug encapsulated in biodegradable polymer microneedles (height 0.5mm) for controlled release into skin.

The Georgia Tech Alumni Association s European Branch Holds Its Inaugural Meeting

on December 3, 2002, over 80 Georgia Tech alumni residing in Europe gathered at the Maison de la Lorraine in Paris, to celebrate the initiation of the Georgia Tech Alumni Association-Europe. The meeting was hosted by Joseph Irwin, vice president and executive director of the Georgia Tech Alumni Association; Jean-Lou Chameau, Georgia Tech s provost; and Hans P Titten, president of Georgia Tech Lorraine (GTL).

This new association was established to create a venue for expatriates to maintain a closer connection with the Institute and with the community of graduates living in Europe. George Griffin of the Alumni Association said, The alumni association is looking to foster lifelong relationships and lifelong participation with the Institute. We are excited about the many possibilities this new association opens up to develop programs for our European alumni.

Karl Dasher, who graduated in industrial engineering in 1993, shares this excitement and vision. This new association is fantastic and something we really needed. I can see this organization promoting a greater global focus for the general Alumni Association, as we