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2002
ELECTRICAL & COMPUTER
ENGINEERING
NEWSLETTER

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ABOUT THE COVER

A Tradition of Excellence



Photo Caption: Mounting Bell Labs 170 pound Telstar I Satellite to a Thor-Delta rocket for its journey into orbit in 1962.

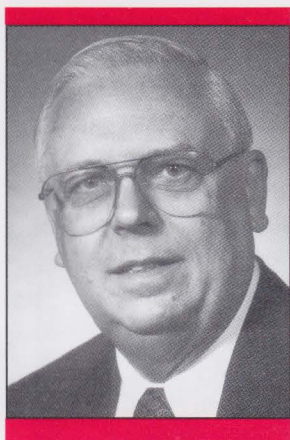
In the fall of 1960, Bell Labs entered the era of satellite communications with Telstar I. Dr. John Sullivan Mayo (EE '55), the 1977 recipient of the College of Engineering's Distinguished Alumnus Award and National Medal of Technology, contributed his engineering skills to the command decoder and switching unit for the Telestar Communications Satellite.

Telstar I was placed in orbit on July 10, 1962 by a Delta launch vehicle. Later that same day, the world witnessed the first transmission of television pictures via satellite. Its solar cells provided approximately 15 watts of power. Frequencies used were 6,390 MHz for the uplink and 4,170 MHz for the downlink.

Telstar was a tremendous technical success and international reaction was spectacular. A U.S. Information Agency poll showed that Telstar was better known in Great Britain than Sputnik had been in 1957. President Kennedy hailed Telstar as "this outstanding symbol of America's space achievements."

We are proud to be able to claim John Sullivan Mayo as our alumnus and we plan to feature projects of other Distinguished Alumni in future issues of our newsletter. These historical achievements illustrate the tradition of excellence in electrical and computer engineering and the individual contribution of just a few of our many outstanding alumni.

DEPARTMENTAL MESSAGE



John R. Hauser

Welcome to the Fall 2002 issue of the NC State Electrical and Computer Engineering newsletter. We hope the newsletter will provide you with an overview of the activities of our department, faculty outreach programs, accomplishments and achievements of our students, and an opportunity for our 9,000+ alumni to reconnect with each other and the department.

As a long time faculty member of this department, I am pleased to see how our department is growing. For the 2002-2003 academic year, our student enrollment is 1,492 undergraduate and 508 graduate students. We have hired five new faculty members in the research areas of computer architecture & systems, information technology, nanoelectronics, and networking. The Department is committed to grow and expand in the following research

and educational areas: nanoelectronics, bioelectronics, gigascale engineered systems, wireless information systems, mechatronics and photonics as electrical and computer engineering moves into the nanoscale device area nanoscale device area to produce electrical systems with 10^9 to 10^{12} components. Lastly, the design of the new ECE building to be located on the Centennial Campus is nearing completion. The new building will provide us with laboratory and teaching facilities needed to meet the educational and research challenges associated with these new technologies. Groundbreaking for this new era in the history of Electrical and Computer Engineering at NC State will take place in the Fall 2003.

With increasing departmental growth and technological advances on the horizon, it is important for us to strengthen further our commitment to the education of new leaders in the field of electrical and computer engineering. To that end, I want to share with you the four educational themes that our Department wants to instill in our students as a result of their electrical and computer engineering studies at NC State.

■ ENGINEERING ANALYSIS AND PROBLEM SOLVING:

Teach students to utilize mathematics, and applied science to identify, formulate, analyze, and solve electrical and computer engineering problems. A focus is placed on the skills, tools and experimental techniques involved in the practice of engineering.

■ DESIGN PROCESS:

Engage students in the process of designing electrical and computer systems, components, and processes to meet desired needs. This objective will focus on the student's ability to work cooperatively on interdisciplinary terms and to communicate effectively with team members to achieve design objectives.

■ LIFELONG LEARNING:

Encourage students to engage in lifelong learning in their profession as well as in contemporary issues that are important to the communities in which they live and work.

■ SOCIAL AND CULTURAL CONTEXT OF ENGINEERING:

Instill in students an understanding of their professional and ethical responsibility as engineers along with an appreciation for the necessity of a broad education in order to understand the context of the impact of engineering solutions on society.

UNDERGRADUATE PROGRAM

Bobby Lee Buntin, a senior majoring in electrical engineering, has been selected as a Chancellor's Aide for the 2002-2003 academic year. Among other duties, Chancellor's Aides escort visitors and prospective students on campus tours. They also assist guests of Chancellor Marye Anne Fox at football and basketball games and at official dinners and receptions at the chancellor's residence. Students are chosen on the basis of their academic standing, ability to communicate, and desire to convey pride in NC State. Mr. Buntin, a native of Winston-Salem, is a University Scholar, member of the Engineering Entrepreneur's Program and on the NC State dean's list.

■ ENGINEERING ENTREPRENEUR'S PROGRAM

One of two "virtual startup companies" in the Spring 2002 Engineering Entrepreneur's Program was IIPSys (Internet Integrated Photo System). In one semester, the twelve undergraduate students of the IIPSys team conceived, designed, and prototyped a combination hardware and software application solution to the problem of providing appliance-like ease of use for delivering personal photos to friends and family around the globe via the Internet.



► *The IIPSys team, left to right: Aaron Allsbrook, Josh Christie, Van Murray, Sulaiman Rahman, Brett Warner, Patrick Liu, Bert Tong, Angela DeLuca, Bobby Buntin, Will Martin, Rachita Kumar, and Jon Lusk.*

Encouraged by their advisory, Drs. Miller and Walsh, IIPSys submitted an application to compete to demonstrate their product at InfoTech 2002, (Council for Entrepreneurial Developments' (CED) prestigious annual showcase for innovative technology companies in North Carolina.) More than 60 NC companies competed for a spot at InfoTech 2002. IIPSys was one of only 20 companies to make the final cut, and tied for the highest score in the evaluations by a blue ribbon panel selected by the CED.

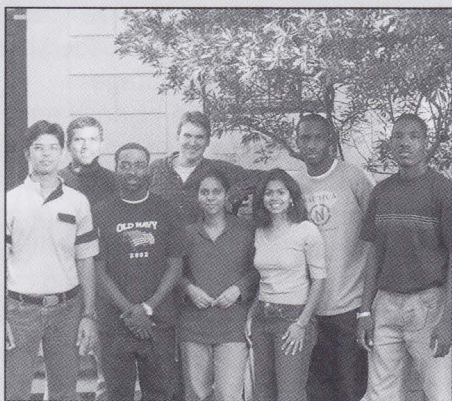
Brian M. Taff of Raleigh, NC, has received the Faculty Senior Scholarship for 2001-2002. Taff, a senior with a double major in mechanical and electrical engineering and a minor in materials science and engineering, was chosen based on "academic excellence, intellectual breadth and depth of character". Taff received an award of \$5,000. In addition to numerous other activities, Taff has been active in the North Carolina Fellows program and NC State student government. He has been inducted into several honor societies, including Phi Kappa Phi and Eta Kappa Nu Electrical Engineering Honor Fraternity.

During this semester, 105 ECE students participate in Senior Design Project course, which represents the culmination of their engineering education and calls on them to utilize their engineering skills to solve a real-world problem. This year **ECE DESIGN DAY** will be held December 5, NCSU Talley Center, 11:00 am - 4:00 pm.

FOR MORE INFORMATION CALL: 919.515.8740

GRADUATE PROGRAM

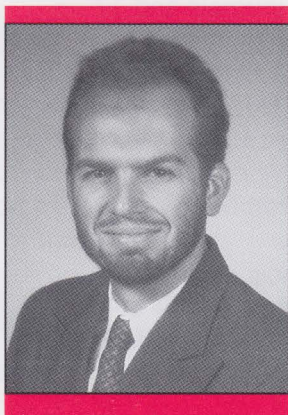
The NC State Department of Electrical and Computer Engineering Graduate Student Association (ECEGSA) was created to enhance the quality of ECE graduate student life by offering social, professional, and educational opportunities. As representatives of the graduate student body, the ECEGSA provides a forum for opinions in matters of mutual interest to faculty and graduate students and promotes professional interest and fellowship among the current graduate student body and the ECE alumni.



► *Officers of the ECEGSA from left to right: Arpan Shah - Vice President, Karthik Sundaramoorthy - Coordinator, Gary Charles - UGSA Representative (CNE), Zach Purser - UGSA Representative (EE), Subha Balasubramanian - Treasurer, Punam Mutha - Alt. UGSA Representative, Omoniyi Segun - Secretary, and Cranos Williams - President. Not shown: Bhavesh Sampath - UGSA Representative (CPE), and Rajagopal Krishnaswamy - Alt. UGSA Representative.*

This summer, twelve representatives from the Electrical and Computer Engineering Department Graduate Student Association gathered in Fuquay-Varina to volunteer with Habitat for Humanity. Alongside the future homeowners and other groups from throughout Wake County, the small contingent of engineering students assisted in the home's construction by laying the foundation and sub-floor for a new shed. The students not only had a rare opportunity to work together as a team outside of the traditional classroom, but also participated in a worthy community service activity.

FACULTY REPORT



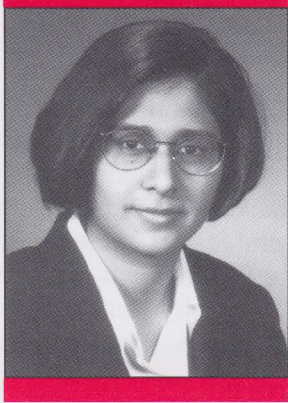
Alexander G. Dean

■ NSF CAREER AWARD WINNER

Alexander G. Dean (PhD Electrical & Computer Engineering '93 Carnegie Mellon University) is the recipient of a Faculty Early Career Development (Career) Award from the National Science Foundation (NSF), effective February 1, 2002. The award is one of the highest honors given by NSF to young university faculty in science and engineering.

As part of the award, NSF will provide \$300,000 in research funding over the next five years. Dean will use the award to support his research project entitled "Software Thread Integration for Low-End through High-End Embedded Processors." The project will develop methods to use inexpensive processors more efficiently through advanced

compiler and architectural techniques. As part of the project, Dean will create a new embedded systems track within the computer engineering curriculum at NC State and will be involved in an outreach program at the NC School of Science and Mathematics to promote interest in embedded systems design and programming.



*Veena Misra
PhD '90*

■ MISRA RECEIVES NSF PRESIDENTIAL CAREER & ALCOA FOUNDATION RESEARCH AWARDS

Veena Misra (BS, MS, PhD '90 Electrical Engineering NC State University) is the recipient of a 2001 Presidential Early Career Award for Scientists and Engineers from the National Science Foundation (NSF). This prestigious award, given only once during an individual's career, is the highest honor given by the US government to young scientists and engineers at the beginning of their careers. The award was given at a White House ceremony to recognize young researchers who show exceptional potential for leadership in their fields. The award is intended to encourage innovation, increase awareness of careers in science and engineering, and emphasize the importance of science and technology for the future of the nation.

Misra is using the award to support her research project entitled, "Novel Approaches for Integration of Vertical Si Nanoelectronics." In this project, she is investigating novel approaches in the integration of high-K dielectrics and metal gates with vertical CMOS devices.

The Alcoa Foundation Engineering Research Award for 2002 was presented to Misra, at the May 15 spring faculty meeting for the College of Engineering. Misra was awarded the Alcoa Foundation Engineering Research Achievement Award.

The annual awards program was established with support from the Alcoa Foundation in 1978 to encourage basic or applied research or research in original design. The Alcoa Foundation Engineering Research Achievement Award is intended to recognize young faculty who have accomplished outstanding research achievements during the preceding three years.

Misra received her award for her contributions to nanoelectronics engineering. She has won three NSF awards: the Faculty Early Career Development (Career) Award, the Presidential Early Career Award for Scientists and Engineers and the NSF Award for Professional Opportunities for Women in Research and Education. She has also written three book chapters, 33 refereed papers in professional journals and 17 conference papers. She has received \$2.5 million in funding for nine grants from such agencies as NSF, Semiconductor Research Corporation, SEMATECH and DARPA toward building an internationally recognized program in novel nanoelectronic devices at NC State.

■ NEW FACULTY APPOINTMENTS

Douglas Barlage (PhD Electrical Engineering '97 University of Illinois at Urbana-Champaign) joined the Department in the fall of 2002, as assistant professor of nanoelectronics. His research interests include nanoelectronics and photonics including III-V materials and devices, microelectronics, silicon devices and processing, power devices and electronics, intelligent systems and bioengineering, along with analog, rf, and mixed mode including microwave devices and circuits, digital circuits and analog circuits.

W. Rhett Davis (PhD Electrical Engineering '02 University of California at Berkeley) joined the Department in the fall of 2002, as assistant professor of computer architecture & engineering. He worked two years with the Center for Advanced Electronic Materials Processing and has worked briefly with Hewlett-Packard (now

Agilent) in Boeblingen, Germany and Chameleon Systems in San Jose, California. His research interests are centered on improving methodologies and CAD tools for system-on-a-chip (SOC) design. His interests include low-power design, telecommunications systems, mixed-signal design, and embedded systems.

Yan Solihin (PhD Computer Science '02 University of Illinois at Urbana-Champaign) joined the Department in the fall of 2002, as assistant professor of computer architecture & engineering. His research interests include high performance computer architecture, with a special emphasize in improving the memory performance of current architectures, exploring the possibilities of emerging platforms, such as intelligent memory architectures and reconfigurable architectures. He is a recipient of Best Paper Award at MTEAC-5 in 2001, and the AT&T Asia/Pacific leadership award in 1997.

Wenye Wang (PhD Electrical and Computer Engineering '02 Georgia Tech) joined the Department in the fall of 2002, as assistant professor in networking. Her research interests include wireless multimedia networks, QoS and resource management for wireless communication systems, mobile computing, and IP mobility management.

Huaiyu Dai (PhD Electrical Engineering '02 Princeton University) will join the department in the spring of 2003, as assistant professor of information technology. His research interests are: communication systems and networks, advanced signal processing for digital communications and communication theory and information theory.

■ ALCOA FOUNDATION PROFESSORSHIP NAMED

Wentai Liu (PhD Electrical Engineering '83 University of Michigan), has been named Alcoa Foundation Professor of Electrical and Computer Engineering for 2001-2002 academic year.

Liu has been on the faculty of NC State since 1983. He has served as a consultant for microelectronic companies, including Mitsubishi Semiconductor America, and holds three US patents. Liu is a pioneer in CMOS wave pipelining and timing optimization research. Additionally, Liu received an IEEE Outstanding Paper Award in 1986 and the Alcoa Foundation's Distinguished Engineering Research Award in 1999.

■ GOVERNMENT AWARDS \$8 MILLION IN RESEARCH

Michael B. Steer (PhD Electrical Engineering '83 University of Queensland, Australia) has been awarded research grants totaling over \$8 million to study the performance of communication systems that are currently hardware limited. Steer is leading three projects that will address new communication architectures and design methodologies for these systems.

The Department of Defense is sponsoring a five-year, \$6 million project entitled "Multifunctional Adaptive Radio, Radar and Sensors" (MARRS) to reexamine completely the radio frequency architectures of communications systems such as cell phones and radar systems. Steer leads a team that includes researchers at the University of California, Los Angeles; the University of Michigan; the University of California, Santa Barbara; and the University of California, San Diego. The project is focusing on a radio that supports communication from VHF to millimeter-wave frequencies and integrates radar and sensor systems. Steer also leads a project funded by the Defense Advanced Research Projects Agency (DARPA), "Advanced Mixed Signal Modeling," for \$1.7 million and a National Science Foundation (NSF)

project entitled "Novel RF Front Ends for Future Mobile Communication Systems" for \$150,000. These efforts are aimed at developing new design methodologies for mixed signal circuits, particularly focusing on the radio frequency front end. The DARPA project includes Dr. Paul D. Franzon, Professor of Electrical and Computer Engineering at NC State, as well as researchers at the University of Illinois at Urbana-Champaign and the University of Arizona.

The software programs developed as part of the projects are being made available as open source software.

■ RALPH E. POWE JUNIOR FACULTY ENHANCEMENT AWARD

John F. Muth (PhD Physics '98 NC State University) has been awarded Ralph E. Powe Junior Faculty Enhancement Award from Oak Ridge Associated Universities (ORAU). The award includes \$5,000 from ORAU for each recipient, which is matched by the recipient's institution. The award is designed to facilitate the research and professional growth of young faculty and encourage new funding opportunities for them.

■ HUGHES & LAZZI RECEIVE NSF RESEARCH GRANT

Brian L. Hughes (PhD Electrical Engineering '85 University of Maryland) and **Gianluca Lazzi** (PhD Electrical Engineering '98 University of Utah) received a NSF Information Technology Research (ITR) program grant. The ITR program supports research in new scientific, engineering and educational areas of information technology (IT).

The award supports a research grant entitled "ITR/SII: A Unified Approach to Communication in Space and Time." The project seeks to develop new "space-time" signal processing and antenna design techniques that use multiple transmit-and-receive antennae to send more data over congested wireless communications links. The grant will create a new interdisciplinary wireless research laboratory at the Engineering Graduate Research Center (EGRC) on Centennial Campus.

This project was one of only 121 group awards selected from a pool of more than 2,000 competitive proposals.



Alexandra Duel-Hallen

■ DUEL-HALLEN PAPER FEATURED IN IEEE COMMEMORATIVE COLLECTION

"Decorrelating Decision-Feedback Multiuser Detector for Synchronous Code-Division Multiple-Access Channel", authored by **Alexandra Duel-Hallen** (PhD Electrical Engineering '87 Cornell University) is one of 57 selected by IEEE to be included in their 50th Anniversary Journal Collection. First published in IEEE Transactions on Communications in February 1993, the paper describes a decorrelating decision-feedback detector (DF for synchronous code-division multiple-access (CDMA) that uses decisions of the stronger users when forming decisions for the weaker ones.

The Journal is being published by IEEE as part of the celebration of 50 years since the establishment of the IEEE Communications Society and represents an editorial selection of various key research papers that have been published by them in the past five decades.



Dr. John R. Hauser (right) receives his award from Mr. George Scalise (left), president of the Semiconductor Industry Association (SIA), and Dr. Craig Barrett (center), chief executive officer of Intel Corporation and SIA chairman.

■ SIA UNIVERSITY RESEARCHER AWARD

John R. Hauser (PhD Electrical Engineering '64 Duke University), professor, received the Semiconductor Industry Association (SIA) University Researcher Award at the SIA Forecast Luncheon held in San Jose, CA. The award acknowledges outstanding contributions to semiconductor technology.

Hauser, a faculty member since 1966, along with his research team, is noted for the development of the world's first monolithic cascade solar cell—a more efficient and powerful way to harness solar energy. For the past five years, Dr. Hauser has been director of the Center for Advanced Electronic Materials Processing a center for advanced microelectronic and nanoelectronics technologies.

■ BARLAGE SELECTED AS TOP YOUNG INNOVATOR BY TECHNOLOGY REVIEW

Douglas Barlage (PhD Electrical Engineering '97 University of Illinois at Urbana-Champaign) was selected as one of the world's 100 Top Young Innovators (TR100) by Technology Review, MIT's magazine of innovation. Barlage and 99 other scientists and engineers under the age of 35 were honored at a May 22 awards ceremony on the MIT campus for their contributions in transforming the nature of technology in industries such as biotechnology, computing, energy, medicine, manufacturing, nanotechnology, telecommunications, and transportation. Barlage won his award for his research in the field of nanoelectronics.

Barlage joined the College of Engineering faculty in August. Prior to joining NC State, he was a senior device engineer for five years with Intel in Hillsboro, Oregon. His work at Intel led to his receiving the TR100 honor. While at Intel, Barlage and team members developed a technique to accurately measure the properties of gate oxide, a fundamental component of a CMOS transistor. According to Barlage, the goal of the research was to make a thinner gate oxide in order to make a faster transistor.

Similar research was being conducted at NC State by Dr. John Hauser, professor and head of electrical and computer engineering, and Dr. Gerry Lucovsky, University Professor of Physics. According to Barlage, "The NC State team had developed one of the best oxides in the academic community and brought it to Intel for benchmarking." Barlage's new measurement technique allowed Intel to create transistors as small as 10 nanometers (nm) (a nanometer is one billionth of a meter). Current state-of-the-art production technology is 65 nm.

Barlage, who came to NC State because he considers it one of the top universities for research in semiconductor processing, believes that transistor research is at a crossroads Barlage said, "For the past 25 years, technology has produced a smaller and smaller version of essentially the same device. This scaling of the CMOS process has allowed the state-of-the-art computer to evolve from the Apple II operating at 1 MHz with 64 kByte of RAM to the Pentium IV operating at nearly 3 GHz with 2 Gbyte of RAM. This corresponds to a factor of three thousand percent improvement in speed

and 300 fold increase in memory in a little over 20 years. Today, fundamental physical size and material limitations are slowing this traditional scaling. In some sense, the field is now wide open for new metal oxide semiconductor technologies and other alternative technologies for logic and RF applications — improvements require more than scaling of size. The existing capabilities of current technologies are allowing new innovative devices in unexplored territories such as bio-engineering. A 10 nm transistor is about the size of a strand of DNA.”

Barlage sees his research being focused in the areas of alternative and complimentary technologies and new uses of existing technology. He said, “It is exciting to look out into the future five to ten years and imagine the possibilities that are waiting to be uncovered.”



Edward Grant

■ NC STATE ENGINEERS RECEIVE A PATENT FOR PIPE-CRAWLING ROBOT

Edward Grant (PhD Computer Science '99 University of Strathclyde, Scotland), director of the Center For Robotics and Intelligent Machines (CRIM) and John F. Muth (PhD Physics '98 NC State University), along with their students have received a U.S. patent for their pipe-crawling robot. The Modular Observation Crawler And Sensing Instrument (MOCASIn) was developed in

1999. The former electrical and computer engineering students named in the patent are Steve Cottle (BSEE '99), currently at SAS Institute in Cary, Jason Cox (BSCPE '99), currently at IBM in Research Triangle Park; and Brian Dessent (BSEE '99, BSCPE '99), currently a graduate research student in electrical and computer engineering at the University of California, Berkeley.

■ IN MEMORIAM

Frederick Joseph Tischer, NC State University Professor Emeritus of Electrical Engineering and internationally recognized pioneer in space communications, died August 14, 2002. Dr. Tischer, 89, was a native of Plan, Austria, and an American citizen, he joined the NC State faculty in 1964. Among his areas of expertise were space communications, space vehicle guidance and navigation systems, space vehicle re-entry blackouts, electromagnetics, microwave theory and techniques and holography.

He was preceded in death by his wife Alma Schoeller Tischer and leaves no immediate survivors, but will be remembered by colleagues and the countless students he inspired. Dr. Tischer created the Frederick J. Tischer Electrical Engineering Scholarship.

According to *US News and World Report*, NC State University has a higher percentage of faculty in the National Academy of Engineering (NAE) than University of Illinois, University of Maryland, University of Michigan, Ohio State, Penn State, Purdue, Virginia Tech, and University of Wisconsin-Madison.

(US News and World Report, April 9, 2001, "America's Best Graduate Schools.")

FIELDS OF SPECIALIZATION

Members of the faculty welcome interaction with our alumni and friends of the Electrical and Computer Engineering Department. We invite you to contact the faculty in one or more of the discipline areas below for potential research concerns, corporate consulting, or other matters of interest.

The department's Web site is www.ece.ncsu.edu, the telephone number is 919.515.2336, and the fax number is (919) 515-5523. Correspondence may be sent to Electrical & Computer Engineering Department, NC State University, Campus Box 7911, Raleigh, NC 27695-7911.

ANALOG, RF & MIXED MODE

Doug Barlage	Gianluca Lazzi
Griff Bilbro	Michael B. Steer
Paul D. Franzon	Stephen J. Walsh

COMPUTER ARCHITECTURE & SYSTEMS

Winser E. Alexander	Paul D. Franzon
Gregory T. Byrd	Eric Rotenberg
Thomas M. Conte	Yan Solihin
Alexander G. Dean	Stephen J. Walsh

INFORMATION TECHNOLOGY

Winser E. Alexander	Wesley E. Snyder
Mo-Yuen Chow	Yan Solihin
Alexandra Duel-Hallen	Doug Y. Suh
Brian L. Hughes	Joel Trussell
Hamid Krim	J. Keith Townsend
Arne A. Nilsson	Wenye Wang
Sarah A. Rajala	Mark White
Mihail Sichitiu	Stephen J. Walsh

INTELLIGENT SYSTEMS & BIOENGINEERING

Doug Barlage	Edward Grant
Mesut E. Baran	H. Troy Nagle
James J. Brickley	Wesley E. Snyder
Mo-Yuen Chow	Mark White

NANOELECTRONICS & PHOTONICS

Doug Barlage	John F. Muth
Griff Bilbro	Carlton Osburn
Paul D. Franzon	Mehmet C. Ozturk
William C. Holton	Jan Schetzina
Ki Wook Kim	D. Ginger Yu
Andrey A. Kiselev	Stephen J. Walsh
Robert M. Kolbas	Zhibo Zhang
Veena Misra	

NETWORKING

Mo-Yuen Chow	Douglas S. Reeves
Mihail Devetsikiotis	Mihail Sichitiu
Paul D. Franzon	Doug Y. Suh
Brian L. Hughes	Ioannis Viniotis
Tony L. Mitchell	Wenye Wang
Arne A. Nilsson	

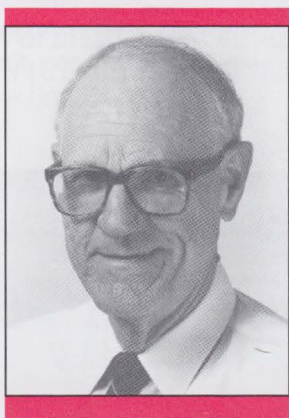
INDUSTRY & ALUMNI SUPPORT

■ ECE WELCOMES CORPORATE PARTNERS

The primary focus of the Corporate Partners Program is to foster ongoing communication and interaction between students, faculty, and our corporate partners to help shape the department's future direction. The unrestricted funding generated by the program allows our department to continue to grow in emerging areas of electrical and computer engineering technology while providing the highest quality education for our students.

Square D, a market-leading brand of electrical distribution, industrial control and automation products, systems and services, joined the ECE as a corporate partner Spring 2002. Square D is the flagship brand in the U.S. for the North American Division of Schneider Electric and its products are found in all types of residential, commercial and industrial construction, in a wide range of manufacturing and processing facilities, and in or on the products of other manufacturers. Schneider Electric, headquartered in Paris, France, is a global electrical industry leader with 2001 sales of approximately \$8.8 billion.

Northrop Grumman is a \$18 billion, global aerospace and defense company with its worldwide headquarters in Los Angeles and joined the ECE as a corporate partner Spring 2002. Northrop Grumman provides technologically advanced, innovative products, services and solutions in defense and commercial electronics, information technology, systems integration, and is the world's largest shipbuilder. With nearly 100,000 employees and operations in 44 states and 25 countries, Northrop Grumman serves U.S. and international military, government and commercial customers.



Dr. Neely F.J. "Sy" Matthews

■ SY MATTHEWS SOCIETY CREATED

Sy Matthews was a vital part of the Electrical and Computer Engineering Department for over four decades. In memory of Sy Matthew's impact on so many of our graduates and his own dedication to philanthropy in our department, the Sy Matthew's Society was created. This society recognizes individuals who make contributions to the Electrical and Computer Engineering Department to help us strengthen our educational foundation and to ensure the academic excellence of the department and its graduates for years to come.

■ EXPRESSING OUR APPRECIATION...

Many alumni and corporate friends have helped the Electrical and Computer Engineering Department achieve our goals of enhancing student recruitment, providing assistance with diversity issues, helping our faculty's research through grants and equipment donations, and much more, this year. These gifts, which can increase corporate visibility among students and members of the faculty and administration, are vital to the mission of the department.

ALUMNI AND CORPORATE FRIENDS

ADC
Cradle Technologies
DuPont
Duke Energy
Exxon Mobil Corporation
Dr. Ayman Yehia El-Ezabi
Mr. & Mrs. William Gray
Dr. & Mrs. John Hauser
Mr. & Mrs. William Highfill
IBM

Intersil
Jetstream
Kenan Institute
KLA-Tencor Corporation
Lucent Technologies
Mitsubishi
Northrop Grumman
Oak Ridge Associated
Universities
PEM Technologies

Powerware
Mr. & Mrs. William Pratt
Pratt Family Foundation
Procter & Gamble
Progress Energy Foundation
Ms. Courtney Anne Smith
Square D
SRC Education Alliance
Mr. Simon Woolard
United Technologies

ALUMNI REPORT



■ ALUMNI IN THE NEWS

Scot Wingo (MSCPE '92) was the featured speaker in the Fall 2002 Entrepreneur's Lecture. President and chief executive officer of ChannelAdvisor, Scot Wingo talked about life as an entrepreneur, his former companies, Auction Rover.com and Stingray Software, and how building his third company is just as challenging as the first time.

■ ALUMNI UPDATE

Edgar L. Hartgrove (BSEE '51) of Burlington, NC retired from Duke Power Company, where he was district manager of the Burlington District for 15 years.

James R. Schofield (BSEE '59) of Titusville, FL retired in June 2001 after a 42-year aerospace career with Douglas Aircraft and the Kennedy Space Center.

J. Patrick Hutchins (BSEE '85) of Dos Vientos Ranch, CA, is vice president of operations for California Amplifier, Inc.

Glenn A. Samia (BSCPE '86) and Gina Samia of Youngsville, NC announce the August 4, 2001 birth of Gracee Glenn. Glenn is president and owner of AMS Software.

Mark L. Jennette (BSEE '87) and Susan Lyerly Jennette (BSME '87) of Wellington, FL announce the December 13, 2001 births of twin sons, Landon Lyerly and Caison Linzey. Mark is employed by Florida Power and Light.

James W. Bright (BSEE '88) and Crystal Rose Smith married November 3, 2001, and reside in Durham, NC. James is a systems administrator at IBM.

Jeffrey S. Cline (BSEE '88) of O'Fallon, IL manages engineering operations for G.E. Automation Services in St. Louis, MO.

Michael L. Lively (BSEE '89) and Kendal D. Lively of Roanoke, VA, announce the June 26, 2001, birth of Terry Robert. Mike is employed with American Electric Power Company.

John B. Morton (BSEE '90) and Christy Williams Morton (BS CHE '92) of Tunkhannock, PA, announce the September 6, 2001, births of Cody Williams and Caitlyn Kellum. Johan is employed by Procter & Gamble.

Steven B. Lucovsky (BSCPE '92) and Lyn Papile married October 20, 2001 and reside in San Diego, CA. Steven is a senior engineering manager with Kyocera Wireless Corporation.

David B. Joyner (BSEE '93) of Thousand Oaks, CA, is vice president of engineering at the SmartBits Systems Division of Spierent Communications.

Phillip A. Emer (MSCPE '94) of Wake Forest, NC, is chief architect of the NC Bioinformatics Grid.

Todd F. Miller (BSEE '94, MSEE '96) and Kennerly C. Miller (BSHUM '92) of Phoenix, AZ, announce the August 22, 2001, birth of Lana Katherine. Todd is a design engineer for Motorola.

Michael S. Walsh (MSCPE '95) of Cary, NC is director of product marketing with Stallion Technologies, a multinational provider of leading-edge data-networking equipment for small and medium businesses.

Jonathan M. Butzke (BSEE '96, BSCPE '96) of Cary, NC, graduated from the US Navy's submarine officer basic course.

Steven L. Rose (BSCPE '96) and Angel L. Setzer married September 15, 2001, and reside in Cary, NC. Steve is a network engineer at IBM.

James W. Henderson, Jr. (BSEE '97) and Michelle M. Thoms (BSME '99) married September 22, 2001, and reside in Morrisville. James is a project engineer with Underwriters Laboratories, Inc.

James R. McCall (BSEE '97) and Patricia L. Sargent married August 11, 2001, and reside in Albany, GA. James is a senior controls engineer at Procter & Gamble.

Jeffrey S. Prevatt (BSCPE '97) and Betty Shannon Poates married October 6, 2001, and reside in Raleigh, NC. Jeff is a software engineer with Genesys Telecommunications.

Jonathan R. Hinkle (BSCPE '98) and R. Allison Rinehart married September 8, 2001, and reside in Raleigh, NC. Jonathan is a computer design engineer with IBM.

John S. "Steve" Cottle (BSCPE '99) and Angela D. Leister (BSCHE '00) married September 22, 2001, and reside in Pittsboro, NC. Steve is a systems administrator at SAS Institute.

Benjamin D. Heard (BSCPE '97, MSCPE '99) and Jennifer M. Chambers (BSALS '96, MSCE '99) married October 13, 2001, and reside in Raleigh, NC. Ben is pursuing a doctorate in computer engineering at NC State.

Thomas E. Kokodzi (BSCPE '00) of Raleigh, NC departed on a six-month deployment to the Mediterranean Sea and Arabian Gulf to support Operation Enduring Freedom.

■ IN MEMORIAM

James C. Owen (BSEE '36) of Boone, NC died November 27, 2001. He was employed by Carolina Power & Light Company until 1940, when he entered the US Army Corps of Engineers. He later worked as an electrical engineer for the Arabian American Oil Company.

William S. Smith (EE '31) of Asheville, NC died September 3, 2001. A World War II US Navy veteran, he worked 35 years for the Navy department of the Civil Service. He was also an electrical engineer, working 14 years with Carolina Power & Light Company.

Thomas L. Watson, Jr. (BSEE '43) of Marathon, FL died February 10, 2002. He served in the US Army Signal Corps and the US Air Force before working for Dick's Electric Company. He later owned Watson Electrical Construction.

Charles R. McNair (BSEE '47) of Tulsa, OK, died March 20, 2000.

Brice Tarleton (BSEE '48) of Charlotte, NC died June 6, 2001.

John B. Crowder (EE '50) of Thomasville, NC died October 14, 2001.

Alonzo C. Baity, Jr. (BSEE '52) of Winston-Salem, NC died October 29, 2001. He worked at Western Electric Company for 31 years, and supported the Crisis Control Ministry, the Salvation Army, the Jimmy V Foundation, the Wolfpack Club and the Winston-Salem Little Theater.

Richard A. Cauble (BSEE '57) of Sebastian, FL, died November 22, 2001. A US Air Force veteran, he retired as vice president and director of engineering with Mackay Engineering Division of ITT Inc. of Raleigh, NC.

Samuel M. Moss (BSEE '52) of Lillington, NC, died March 15, 2001. A US Navy veteran, he worked for Philco and Bell Labs until his retirement in 1989.

Robert M. Shaw (BSEE '52) of Gastonia, NC, died January 28, 2002. He was a World War II veteran and served as a Boy Scout leader.

Howard F. Stearns (BSEE '55) of Huntsville, AL, died January 22, 2001. An engineer, he worked for DuPont and General Electric. He also worked at Wright Patterson Air Force Base in Dayton, OH and for Defense Systems in Huntsville, AL.

Theo R. Potter (BSEE '56) of Raleigh, NC, died December 15, 2001.

S. Dexter Brooks (BSEE '65) of Pembroke, NC, died March 5, 2002. He was an attorney and senior resident superior court judge in Robeson County. He also taught math at NC State, Southeastern Community College and Robeson Technical Community College.

Roy H. Propst (BSEE '65, MSEE '68, PHDEE '70) of Chapel Hill, NC, died October 1, 2001. He was employed by the UNC System for many years.

Mark C. Roberts (BSEE '92, MSCPE '97) of Apex, NC, died February 13, 2002. He was an electrical engineer with O&I Systems.

Robert T. Zimmer (BSEE '97) of Baltimore, MD, died October 12, 2001. While at NC State he was a Caldwell Scholar, member of Phi Delta Theta fraternity, president of the student senate and president of the student body.

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2002 ELECTRICAL & COMPUTER ENGINEERING NEWSLETTER

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