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Spring
2009

Electrical & Computer Engineering

UPCOMING EVENTS

April 24, 2009

Don Lenhart
Retirement Reception

May 2, 2009

Seaton Society
Celebration

May 11-15, 2009

Spring Final Examinations

May 16, 2009

Spring Commencement

Message from the Department Head

Greetings from Manhattan! I have to say this has been a very eventful year for the department. A variety of expected and unexpected activities have kept things going very quickly in my first year and a half as department head. Although it has been a busy period, I must say it has been very enjoyable to work with the wonderful students, alumni, faculty, and staff that we have in electrical and computer engineering. All of you truly make my position a much more rewarding experience.

As you read the articles, I hope you appreciate the efforts our faculty, staff, and students have been making to continually improve the department. Three highlights of the year involve corporate involvement in our program. GE Aviation is opening a University Development Center in Manhattan that will employ computer engineering coops to help test the embedded system aspects of the avionics systems that GE produces. This is a great opportunity for our students to obtain valuable commercial experience while staying in Manhattan. Another development is the establishment of an Electrical Power Affiliates Program, sponsored by power utilities and engineering firms, to promote power engineering in the department and

college. The program will provide funds for undergraduate and graduate students to work on research projects in the power area. We are very grateful for support from Westar Energy, Burns & McDonnell, Nebraska Public Power District, and Omaha Public Power District for this program. Finally, we have finished the renovation of our conference room which was made possible by a gift from Garmin. The room is completely refinished and equipped with new furniture and technology to better meet the needs of our students and faculty for many years to come. We are really excited about the opportunities these programs will provide for our students, and the positive effect they will provide in recruitment and retention.

On a different note, undergraduate enrollment in both electrical and computer engineering continues to decline or hold steady. There does not appear to be any dominating reason for the decline which has been consistent with other programs across the nation. The more common reasons for the decline are: 1) the perception that jobs are being sent offshore; 2) electrical and computer engineering are too difficult; 3) young students believe other degrees will better allow them to make an impact on

society or the environment. In our 2008 meeting the department advisory council discussed various recruitment strategies to increase enrollment. A plan is being developed to build better connections with students, teachers, and counselors at the middle and high school levels in Kansas. We will use our own students and alumni to help build those relationships and demonstrate the great opportunities in both the electrical and computer engineering fields.

In research, I believe the department is heading into a very exciting direction. This year we are pleased to rank 83rd in US News and World Report. Efforts to build our program in both the renewable energy and biomedical/health care areas are underway. We look forward to growing in these areas, and always welcome any new opportunities that you suggest in the future. (Continued on next page.)



Message from Department Head - Cont.



Students at the welcome back ECE picnic



Katie Fisher —
Accounting Specialist



Sara Wege —
Administrative Assistant



Garmin Conference Room Dedication

I want to also thank many of you for your support of our program through the Electrical and Computer Engineering Academy. Your contributions enable us to maintain our laboratories and provide professional support for both students and faculty. These are critical components for both our recruitment as well as maintaining superior programs at both the undergraduate and graduate levels. As our state budget continues to come under pressure, the contributions you make become even

more critical. Thanks again!

Finally, I want to recognize our wonderful faculty and staff in ECE. It is truly a blessing to work with such great people, and it is a large part of why leading the department is truly an enjoyable experience. Many of our faculty have received outstanding recognition this past year as you will see in the accompanying articles. This is the final year of phased retirement for two of our senior faculty members, Ken Car-

penter and Don Lenhart. Ken has been at K-State since 1986, and Don since 1966. We will certainly miss both of them tremendously. If you have any messages or memories you would like to share, please send them to me. We will try to forward any plans for reception(s) for either of them.

We hope you enjoy this newsletter. I am always available for questions or suggestions, and I look forward to seeing many of you throughout the year.

Welcome New Staff Members

Katie Fisher joined the ECE Staff in April of 2008 as an Accounting Specialist. She received her B.S. in Animal Science and Industry from Kansas State University in May 2007.

Sara Wege also joined the ECE Staff in August 2008 as an Administrative Assistant. She received her B.S. in Animal Science and Industry from Kansas State University in December 2007.



Sara Wege, Katie Fisher & Sharon Hartwich at 2008 ECE welcome back picnic

Garmin Conference Room Renovation

A gift from Garmin Inc. has allowed the department to perform a much needed renovation to the department conference room.

Coonrod & Associates from Wichita served as the contractor for the conference room renovation. Coonrod has been a significant partner in key renovations for the College of Engineering during the past several years. They have done an excellent job at a very minimal cost. The construction project was completed by August 1, 2008.

The work consists of:

- 1) replacement of ceiling tiles with a more professional style;
- 2) installation of new lighting fixtures;
- 3) wall preparation and painting;
- 4) installation of power and data outlets in the floor;
- 5) installation of carpet;
- 6) new projector and HD display;
- 7) videoconferencing equipment;
- 8) eight new tables;
- 9) 26 new chairs; and
- 10) new recognition plaques for Garmin. The original estimated costs for this work was approximately \$100K, but by having department staff perform the demolition and simple installations, the total cost of the project was approximately \$62K.

Garmin contributed multiple pieces of artwork as well as products that are showcased in a display cabinet.

The conference room was dedicated with a luncheon and ribbon cutting ceremony on September 9, 2008. Representatives from Garmin, ECE, and the College of Engineering were present. Remarks were made by Dean John English, Don Gruenbacher and Garmin representative Brook Parker. The department also presented a plaque to Garmin to commemorate the event.

Electrical & Computer Engineering Academy

The ECE Department initiated the Electrical and Computer Engineering Academy in January 2005. This academy recognizes alumni and friends who partner with ECE. The academy provides corporate and professional leaders with the opportunity to impact electrical and computer engineering education and personally interact with department faculty and students.

Academy Goals:

- Recognize Electrical and Computer Engineering alumni and friends who bring honor to their profession
- Strengthen the dedication of current students in electrical and computer engineering through inter-actions with academy members
- Provide advisory guidance and

counsel at the request of the department head, faculty or students

- Provide financial support through membership gifts for the benefit of Electrical and Computer Engineering at K-State

Benefits from Membership Contributions:

- Scholarships and fellowships to recruit outstanding undergraduate and graduate students
- Student leadership activities (Eta Kappa Nu, Institute of Electrical and Electronics Engineers, ECE Graduate Student Council, Solar Car, and other student groups)
- Professional development for faculty and staff
- Equipment and supplies to support active learning and team projects

- Travel for student professional development

Individuals and organizations can join the ECE Academy by contributing to the department or to a Scholarship Fund designated for the department. Contributions can be made any time or during the annual Telefund by designating the contribution to the department account.

The academy members for 2007-08 (contributions made between July, 2007 and June 30, 2008) are as followed. Every effort has been made to produce a comprehensive listing of donors for the department. We apologize for any incorrect listings, misspellings, or omissions, and extend our sincere thanks for your support!

Benefactor — \$1,000.00 +

John & Ethelyn Baker
Lionel & Debra D'Luna
Rich & Marilee Donaldson
Jane & Gilbert Ferguson
Don Gemaehlich
Calvin & Joy Gooden
Martha & Jeff Hamilton
Kay Hummels
Gary & Jolene Johnson
Min-Hwan & Yu-Fan Kao
Richard & Kelly Klover
Lief & Paula Koepsel
Don Lenhert
Jane Ley
Sam & Martha Logan
Jeanette & Bert Otto
Steve & Eleanor Reiter
Richard & Viki Teichgraber
Edward Wiegiers
Mike & Mary Wiegiers
John & Mary Wilson

Seaton Society — \$500.00

David & Dayna Basel
Don & Barbara Gruenbacher
Gerald Miller
Robert & Barbara Moyer
Shawn Mulvaney
Krishna & Usha Shekar
Jan & Tom Stegmann
Brick Verser
Nathan & Trina West

Partner — \$250.00

Leland & Mary Allen
Daniel & Judi Burk
George & Anne Cleveland
Mike & Vicky Gard
Keith & Rebecca Holt
Francis & Barbara Honey
James Logbeck
Michelle Munson
Marvin & Carole Paige
Roger & Sherry Riggert
Don & Martha Ross
Kent & Donna Scarbough
Randall Smischny

Corporate Partners — \$2,500.00

Burns & McDonnell
Cadence Design Systems Inc
ConocoPhillips
ExxonMobil Foundation
Garmin International Inc
Midwest Energy Inc
Nebraska Public Power District
Omaha Public Power District
Quanta Technology
Westar Energy

New Graduate — \$50.00

Craig Buckley

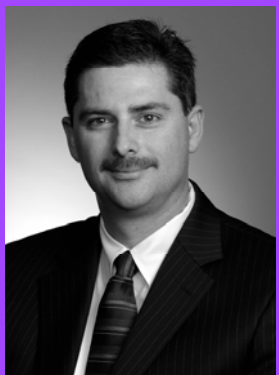
**We Would Like to Give a
BIG THANK YOU!!!
To All Our Awesome Donors**



Donovan J. Nickel



Tracy L. Olivier



Jeffery D. Thetge

We are very pleased to have three of our alumni recognized for their achievements. These awards were presented at the College of Engineering Seaton Society Banquet on November 3, 2007.

Hall of Fame

Induction to the hall of fame is the highest honor bestowed on its alumni by the college. The honorees will be recognized for their professional success and accomplishment, active involvement with the support of the College of Engineering, dedication to K-State and professional and public service.

This past year ECE inducted **Donovan J. Nickel** into the College Hall of fame. Nickel of Windsor, Colorado, a 1978 K-State Graduate in electrical engi-

neering, completing a master's degree in 1979. He also has a master's degree in business. Nickel is vice president and general manager of the network attached storage business at Hewlett Packard. He joined the company in 1979 as a hardware development engineer in Fort Collins, CO, desktop computer division. In 1986, he joined the integrated circuits division, where he led the customer VLSI development for a broad range of products across Hewlett Packard. In

1997 he became research and development director for the Fort Collins microprocessor lab. With responsibility for PA-RISC microprocessor development. Prior to his current role, he was vice president and general manager responsible for the business critical hardware systems divisions at Hewlett, with responsibility for the HP9000 and HP Integrity Server product lines from 2000-2007.

Professional Progress Award

Recipients of the college's Professional Progress Award were nominated for professional career accomplishment during the first 20 years following their graduation. ECE is very proud to have two alums recognized with this honor.

Tracy L. Olivier

Electrical Engineering 1989, B.S. Tracy Olivier is the Engineering Manager for OEM and Fitness Products at Garmin International. Her work activities at Garmin have included product design, product management, and most recently, engineering management of fitness and automotive OEM engineering development teams. This "jointed" position has allowed her to travel the

world working with automotive manufacturers, and also tie her passion for running into product creation and launch in the fitness marketplace. Olivier began her career at Johns Hopkins Applied Physics Laboratory in biomedical research and missile systems analysis. She also designed electronics to support research activities associated with the Human Genome Project. Oliver received her M.S. in Electrical Engineering from University of New Mexico while working at Los Alamos.

Jeffery D. Thetge

Electrical Engineering 1988, B.S. Jeffery Thetge is Vice President and is currently responsible for the international operations for

the engineering/EPC business segment of Willbros Butler Engineering. He began his career as a design electrical engineer for the company in Tulsa, Oklahoma in 1989. He has worked on various oil and gas and government projects as lead design engineer, project engineer and project manager. In 1999, he worked in Nigeria as project engineer, project manager and senior project manager both onshore and offshore. In 2002, Jeff transferred to Tulsa as manager of engineering for the Willbros' international division responsible for support services including engineering, procurement, quality, prequalification's and international bidding efforts.

Student Awards

Zachary Maier, a senior in computer engineering with a minor in political science, has been invited to interview for a Truman scholarship.

Maier was selected as a U.S. Department of Homeland Security Scholar in 2006. The two-year scholarship is worth around \$35,000. He has been involved with undergraduate research in K-State's Visual Cognition Laboratory. Maier is active in Wildcats Forever and is vice president of both the K-State Student Alumni Association and K-State's chapter of the Institute of Electrical and Electronic Engineers professional society. He is lead mentor of the New Student Assembly class. He also was a

member of the Greater Kansas City FIRST Robotics Regional Planning Committee.

Derek J. Woodman, has received a Tau Beta Pi Record Scholarship. Derek is on his way to a bachelor's in computer engineering, where he ranks first in a class of 507. He is looking forward to graduating into the corporate world, starting his own family, and having time to become involved in the community. He has been a TBIT Treasure and IEEE Member.

Austin Pfannenstiel, E.E. major, with a minor in business administration has received a Tau Beta Pi Record Scholarship. His concerns have also led him to study alternative energy and envi-

ronmental ethics. Post-graduation, he has signed on for the U.S. Navy nuclear power office program and after training plans to serve aboard submarines.

Min Gui, Ph.D. student in Electrical and Computer Engineering working on an NSF funded project with Dr. Anil Pahwa and Dr. Sanjoy Das as co-advisors, received the Second Place Prize for her poster presentation "Prediction and Anomaly Detection of Animal-Related Failures in Overhead Distribution Systems" at Student Poster-Paper Session and Contest held at the Institute of Electrical and Electronics Engineers (IEEE) Power Engineering Society (PES) Annual General Meeting in Tampa, Florida in June 2007.

"Our undergraduate and graduate students with the best possible education to prepare them for a professional career in electrical or computer engineering within the guidelines provided by the ABET." - A Mission of KSU ECE

Garmin Scholarships **GARMIN**™

Sixteen top students from K-State ECE have been named 2008 Garmin Scholars.

Funded by the Kao Family Foundation, the Garmin Educational Initiative program, of which K-State is a member, will provide the students with \$6,000.00 per year for premier scholarships in the K-State College of Engineering's department of Electrical & Computer Engineering. In addition, scholarship recipients will be given first consideration for paid internship opportunities at Garmin.

Recipients of the Garmin Scholarships at K-State must be full-time students majoring in Computer Engineering or Electrical Engineering and have completed at least their freshman year. To qualify for an initial annual scholarship award, a student must have a cumulative grade point average of 3.8 or above. The initial recipients who maintain a 3.5 grade point average will continue to receive the scholarship until their graduation.

Sophomore:

Ray Scheufler CE, Sterling, KS
Richard Bell (CE) – Wichita, KS
Nicholas Rome (EE) Lone Tree, CO
David Ochs (EE) Bennington, KS

Junior:

Jason Sowers (CE) Goddard, KS
Cody Barthuly (EE) Winfield, KS
Nicholas Gay (EE) Lenexa, KS
Aaron Duerksen (CE) De Soto, KS

Senior 1:

Daniel Snell (CE) Ellinwood, KS
Sarah Kubler (CE) Chanute, KS
Derek Woodman (CE) Parsons, KS
Mark Wallsten (EE) Hutchinson, KS
Tony Clark (CE) Paola, KS

Senior 2:

Michael Ellis (EE/CE) Overland Park, KS
James Groening (EE/CE) Prairie Village, KS
Alex McKee (EE) Wichita, KS



An example of a smart, portable Garmin Navigation System

Faculty Awards



Medhat Morcos

The recipient of the 2007-08 Dr. Ron and Rae Iman Outstanding Faculty Award for Teaching is **Medhat M. Morcos**, university distinguished teaching scholar, electrical and computer engineering. This award is designed to honor a full-time K-State faculty member for excellence in high quality instruction, strong relationships with students inside and outside of the classroom and reputation for scholarship and distinguished service to the university.

Morcos has been a member of the K-State faculty since 1986. He teaches courses in control systems, power electronics and energy conversion in the Department of Electrical and Computer Engineering. His current research includes electric power systems, power electronics, electric machines and high voltage engineering.

A native of Cairo, Egypt, Morcos received a B.S. in electrical engineering from Cairo University and a B.S. in military science from The Military Academy in Cairo in 1966. Following

graduation, he joined the Egyptian Air Force. His M.S. in electrical engineering was conferred by Cairo University in 1978. He retired with the rank of Lt. Colonel in 1981 and completed a Ph.D. in electrical engineering at the University of Waterloo, Ontario, in 1984.

William B. Kuhn, has received the Commerce Bank Outstanding Undergraduate Teaching Award. The awards, each of which includes a \$2,500 honorarium, are sponsored by the William T. Kemper Foundation and Commerce Bancshares Foundation; they are coordinated through the Kansas State University Foundation.

Kuhn's classes range from an introductory course that he helped create to graduate-level elective courses in integrated-circuit design and radio/microwave engineering. "I try to apply basic principles learned from my own experiences as a student, an engineer and a person," Kuhn said. "Learning occurs mostly from two things -- being motivated and doing things.

So I make lectures relevant by bringing in examples and demonstrations, and I deliver them with interest, and sometimes with humor. Whenever possible, students should work with real hardware; it prepares them for the real world and gives them the confidence they need." Kuhn joined K-State in 1996 after receiving his doctorate from Virginia Tech, where he also earned his bachelor's degree. His master's in electrical engineering is from Georgia Tech.

Other Awards Received:
Caterina Scoglio—Outstanding Department Faculty Award

Steve Warren and Medhad Morcos—WESP Making a Difference Award

James Devault—PPA Professional Performance Award

Balasubramaniam Natarajan—was promoted to Associate Professor

Anil Pahwa—PPA Professional Performance Award and Blue Key Advisor of the Year



William Kuhn



David Soldan

IEEE Distinguished Member Award

David Soldan was presented the IEEE Distinguished Member Award at the 2008 Frontiers in Education Conference in Saratoga Springs, N.Y.

This award goes to those who provide outstanding long-term service to the

IEEE Education Society and provide significant contributions in an IEEE Field of Interest.

Recipients must have been members of the Society for at least ten years and are selected for leadership quality, innovative and impor-

tant contributions, service, dedication and technical achievements.

IEEE Education Society Distinguished Member Award Recipients:

David Soldan (2008)

Theodore E. Bachman (2007)

David A. Conner (2007)

Marion O. Hagler (2006)

Burks Oakley II (2006)

ECE IEEE Fellows

The Institute of Electrical & Electronics Engineers, IEEE, has promoted two members associated with K-State ECE to fellow status. Ruth Dyer, associate provost & a professor of electrical & computer engineering at Kansas State University, is among 295 senior members

of the IEEE to be elevated to the grade of fellow. John Schmalzel, professor of electrical & computer engineering at Rowan University & K-State ECE Ph.D. graduate is also being recognized as a fellow. Dyer & Schmalzel join a distinguished list of IEEE fellows

associated with K-State ECE.

The IEEE Fellows are an elite group from around the globe. The IEEE looks to the Fellows for guidance & leadership as the world of electrical & electronic technology continues to evolve.



The following Kansas State University Electrical & Computer Engineering faculty have been elected as IEEE Fellows:

Michael S. P. Lucas - (Life Fellow), 1993 - for contributions to the size effect in the electrical conduction of thin metallic films.

Stephen A. Dyer – 1997 - for design & development of spectrum recovery methods & fast algorithms in Hadamard transform multiplex spectrometry.

Donald E. Rathbone - (Life Fellow), 1997 - for contributions to & leadership in engineering education.

David L. Soldan - 2001 - for contributions to & leadership in engineering education.

Anil Pahwa - 2003 - for contributions to power distribution system automation & restoration.

Ruth A. Dyer - 2008 - for contributions to diversity in science & engineering education, & Hadamard transform spectrometers.

In addition several graduates of the ECE department have been elected to Fellow Grade

Edward C. Bertnolli (Life Fellow) – 1993 - for leadership, planning, & management of technical organizations & education programs.

Russell C. Eberhart – 2001 - for contributions to the computational intelligence field, including particle swarm optimization & diagnostic systems.

Richard C. Hochberg – 2007 - for leadership in engineering & management of advanced electronic systems.

John L. Schmalzel – 2008 - for leadership in engineering education.

Kansas Wind for Schools



"The atmosphere to create new knowledge through scholarly research, which fosters faculty development, enhances the educational process, and contributes to the economic development of the region."

- A Mission of KSU ECE

As director of the Wind Application Center, Ruth Miller educates electrical engineers on the basics of wind energy.

The Kansas Wind for Schools program provides assistance in financing, siting and installation for elementary and secondary schools in Kansas interested in having a small wind turbine for educational and outreach purposes.

The five rural Kansas high schools selected by the Kansas Wind for Schools program to receive a small wind turbine for educational and

outreach purposes have either already installed the turbines, or are about to do so.

Fairfield High School, USD 310, was one of five rural schools selected to receive a Skystream 3.7 wind turbine as part of the National Renewable Energy Laboratory's Wind for Schools Initiative. Fairfield plans to erect its turbine May 20.

The turbine installed at Sterling High School in USD 376 will become part of the school's environmental science curriculum. We are working to schedule foundation work at Walton Elemen-

tary in the Newton school district May 9, and possibly Ell-Saline High School in Brookville as soon as May 17. Concordia will be the last installation.

The three-year Kansas Wind for Schools program aims to train young engineers for jobs in the rapidly growing wind industry and to increase public awareness and understanding of wind power. Schools that receive the turbines are expected to incorporate education about wind energy into their science curricula.

Kabul University

The World Bank supported partnership between Kansas State University and Kabul University moved into second year after successful completion of the first year.

Highlights of the first year include 1) design of a new four-year curriculum for Electrical Engineering, Civil Engineering, Mechanical Engineering, and Architecture, 2) specifications of equipment for various engineering laboratories, and 3) establishment of an Engineering Institute at Kabul University which will allow engineering faculty members at Kabul University to work on sponsored projects.

A new curriculum went into

effect in March 2008. The main focus right now is on freshman courses including chemistry, physics, math and english. Department specific courses will be introduced to the students in the fourth semester, which started in August 2009. Anil Pahwa, Andrew Rys, and Dwight Day have been preparing materials in anticipation of offering those courses at Kabul.

This summer Dr. Rys spent about a month at Kabul University to train faculty and students at Kabul University. He gave guest lectures and provided hands-on laboratory sessions to junior faculty members as well as the 4th and 5th year EEE students at Kabul University.

Three engineering faculty members of Kabul University arrived in Manhattan in June 2008 to pursue M.S. degrees in various engineering disciplines. Four to five additional faculty members are expected to arrive in January 2009. Recently an Engineering Advisory Council at Kabul consisting of representatives from the university, industry in Kabul, officials of the Afghanistan government, and representations of the World Bank was formed. The role of the advisory council will be to provide feedback to the project personnel on the new curriculum and other issues related to the engineering programs at Kabul University.



Andrew Rys with students at Kabul University.



Electrical Power Affiliates Program

Three electric utility companies and an engineering firm have made commitments totaling \$300,000 to the College of Engineering at Kansas State University to establish the **Electrical Power Affiliates Program**.

Westar Energy, Topeka, KS, Burns & McDonnell, Kansas City, KS, Nebraska Public Power District and Omaha Public Power District will provide financial assistance to the power engineering program in the Department of Electrical and Computer Engineering. The program creates opportunities for both undergraduate and graduate students to conduct research on practical real-world problems, experience for stu-

dents in publishing and presenting results at national conferences, feedback and involvement of members in specific research projects of interest and advisory involvement in the power engineering educational program.

A Power Affiliate Board was established and met for the first time in April. Representatives from the affiliate members had the opportunity to view student presentations and set goals and guidelines for the next academic year.

Westar Energy made the initial commitment in November of 2007 of \$120,000 to the College of Engineering at K-State to

establish the Westar Power Affiliates Excellence Fund.

“Westar Energy is proud to be the initial corporate partner of the Kansas State University College of Engineering Power Affiliates Program,” said Doug Sterbenz, chief operating officer of Westar Energy. “We see this program as a response to the work force in transition challenges faced by our industry and the growing competition for highly skilled engineers. We believe this partnership with KSU represents an opportunity to showcase our industry and will help us attract and retain the best and brightest of the next generation of engineers.”

“An environment which instills in the students a sensitivity to the social and humanistic implications of technology and motivates them to make worthwhile contributions to the profession and to society in general while upholding the highest standards of professional ethics.”
- A Mission of KSU ECE

GE Aviation Comes to Manhattan



GE
Aviation

GE Aviation has announced the selection of Kansas State University for a University Development Center to be located in Manhattan, Kansas. The new facility is projected to include about 43 engineering jobs within two years.

The engineering staff at GE's University Development Center will perform various engineering services including software development, verification and validation, mechanical design and hardware design. GE is currently reviewing location options and plans on occupying the

Center in the second quarter of 2008.

The Kansas Department of Commerce, the City of Manhattan and K-State collaborated to bring a GE Aviation University Development Center to K-State and Manhattan. The incentive package from the city (pending approval by the Manhattan City Commission) totals \$348,000. With the forgivable loan and tax credits, the Department of Commerce offered \$240,000 in total incentives.

GE plans to actively recruit Kansas State University stu-

dents for internships, co-ops and entry level positions for May 2008. Applicants can view positions and apply at www.soaringcareers.com

GE Aviation, an operating unit of General Electric Company (NYSE:GE - News), is a world-leading provider of commercial and military jet engines and components as well as integrated digital, electric power, and mechanical systems for aircraft. GE Aviation also has a global service network to support these offerings. For more information, visit us at www.ge.com/aviation.



GE Aviation utilizes state-of-the-art digital technology to meet the needs of the world's evolving airspace, offering flexibility and enhanced performance through highly reliable and innovative products and systems that are essential in safety-critical aircraft operations.



NEW Opportunity for Distance Students

Curriculum for Communication and Networking Emphasis

The Electrical Engineering M.S. curriculum with a communication and networking focus is offered totally online and is primarily intended to be a coursework-only program. The program is open to off-campus students residing both in and out of the U.S. and requires 30 credit hours (units) of coursework to complete the degree.

Core Courses: (18 units – required)

EECE 831 Noise Theory
 EECE 830 Advanced System Theory
 EECE 660 Communication Systems 1
 EECE 890 Wireless Communications
 EECE 841 Wide Area Networking
 EECE 897 Independent Study/MS Project

Elective Courses: (12 units)

Students will choose four courses out of the following seven:

EECE 641 Advanced Digital Design
 IMSE 680 Quantitative Problem Solving Methods
 IMSE 806 Engineering Project Management
 CIS 725 Advanced Computer Networks

Students may choose one of the following three:

CE 703 Responsibility in Engineering
 CE 704 Responsibility in Engineering: Leadership and Diversity
 CE 790 Top/Engineering Ethics Case Studies



Dr. Scoglio at the 2009 ECE Picnic

“An effective outreach program including distance education courses, regular and short courses which benefit students outside our program and participation in professional society activities.”—A Mission of KSU ECE

Gifts From HP (and HP Employees)

ECE albums and HP employees Gordon Thayer and Mike Rottinghaus donated funds matched by HP to equip 14 new 22”LCD monitors in the Intro to Computer Engineer-

ing Laboratory. All freshmen in ECE take this course in their first or second year, with a total enrollment of approximately 200 students per year. Their gift will

make a very positive impact on ECE student experiences in this course, as well as our recruitment activities.

Thank You Gordon and Mike!!

Retirement

At the end of the 2008-09 academic year, two K-State ECE professors will have finished their long and celebrated period of service to the department, college, and university. Both Don Lenhert and Ken Carpenter will be retiring in May, and we will miss both of them dearly. Don Lenhert joined the faculty in 1966, and he has been a leader in various aspects of our program. In particular, Don’s contributions have been

greatest in teaching embedded systems courses, leadership of the computer engineering curriculum, and alumni relations for the department. Ken Carpenter joined the faculty in 1986, and has provided great contributions in teaching electromagnetic and circuits courses while also conducting key research projects with national laboratories. Both Don and Ken have also received numerous awards during their careers, including the Eta Kappa Nu Distinguished Faculty Award. We will certainly miss both of these fine gentlemen as they look forward to spending more time with their families and other interesting activities. A department reception will be held for Ken at the end of the semester, and a dinner will be held for Don on the evening of April 24. Any alums interested in attending should call 785-532-5600. Any memories should be sent to grue@ksu.edu or the departmental mailing address.



Ken Carpenter & Don Lenhert

Luke Short



In Fall 2006 Luke Short was starting his junior year here at KSU, studying electrical engineering with interests in biomedical engineering and in renewable energy. He was enrolled in a Solar Engineering class and participating in the design of the KSU Solar House for the fall 2007 design competition. He was also active in his fraternity, Phi Kappa Theta, and a recognized leader there. Early in the semester, at an outing with the fraternity at Tuttle Creek Lake, Luke broke his neck in a swimming accident. Quick action by his fraternity brothers saved his life, but he was in for a year of healing and rehabilitation, learning to live as a paraplegic, bound to a motorized wheelchair.

Through the year of healing Luke never lost his sense of humor or his determination to become an electrical engineer. If anything the accident strengthened his resolve, increasing his interest in biomedical engineering. He wanted to work on means of healing spinal-cord injuries as well as devices to help people like himself live comfortably and well de-

spite their handicaps. He came back to campus in Spring 2007 for advising and enrollment in Fall 2007 classes, and in Fall came back full-time to finish what he had begun the previous Fall.

Luke had been an "A" student before his accident. He chafed at the limitations of his body that kept him from performing to what he knew he could do, but persisted with determination and a good spirit. If he was discouraged we rarely saw it. He had to learn how to learn by listening, because he could not take notes with any speed. He had to learn to accept help in writing, teach himself computer programs so he could write complicated math equations and draw electronic circuits, as well as deal with all the large and small obstacles faced by someone in a wheelchair, in parallel with the challenging junior-level electrical engineering classes he wanted to get "A"s in. He never wanted special treatment and only reluctantly accepted help he was entitled to because of his disability. We watched him grow stronger and healthier, and more confident as the semester wore on; in December he asked about internship opportunities in Topeka for the summer, and study space available in the engineering building that would accommo-

date his rather high wheelchair. He was looking forward to the alternative energy class one of us is teaching this semester, to pick up where he'd left off back in 2006, learning how to design and install solar and wind energy systems. He was looking to improve his GPA too, being disappointed in earning less than a 4.0!

In January Luke had minor surgery, but contracted pneumonia as a result, and passed away suddenly on 10 January. His loss was a blow to everyone close to him, and to his chosen profession. He has left us a challenge, to strive to match his determination to succeed and especially to improve this world for everyone through the technology he loved and was so good at.

The Wind-for-Schools Skystream wind turbine was erected on KSU property in Fall 2008 is dedicated to Luke Short. Westar Energy donated the pole for the turbine, and Luke's father, a Westar lineman, oversaw the installation. We know Luke would have been involved with every step of this project and hope everyone seeing the turbine will be inspired to help our society and the world as Luke wanted to.

uly offices were left in disarray. Due to an incredible response from volunteers our campus and our community was quickly cleaned up and is operating as well as ever.

Tornado Causes \$20 Million Damage to K-State

A tornado touched down in Manhattan, Kansas the evening of Wednesday, June 11, 2008 and Kansas State University was one of the Areas to sustain Damage. Storm damage at K-State was esti-

mated to exceed \$20 million.

The Electrical & Computer Engineering Department in Rathbone Hall were very fortunate, sustaining minimal damage. There were a few broken windows and 3 fac-

ulty offices were left in disarray.

Due to an incredible response from volunteers our campus and our community was quickly cleaned up and is operating as well as ever.



Notice of Nondiscrimination

Kansas State University is committed to nondiscrimination on the basis of race, sex, national origin, disability, religion, age, sexual orientation, or other nonmerit reasons, in admissions, educational programs or activities and employment (including employment of disabled veterans and veterans of the Vietnam Era), as required by applicable laws and regulations. Responsibility for coordination of compliance efforts and receipt of inquiries concerning Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, the Age Discrimination Act of 1975, and the Americans With Disabilities Act of 1990, has been delegated to Clyde Howard, Director of Affirmative Action, Kansas State University, 214 Anderson Hall, Manhattan KS 66506-0124, (Phone) 785-532-6220; (TTY) 785-532-4807.

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Advisory Council

The ECE Advisory Council had their annual meeting on April 14, 2008. Presentations on the state of the department, the undergraduate program, and the graduate program were provided. Additional presentations for the College were given by Kelly Sartorius (Development), Kimberly Douglas-Mankin (Women in Engineering and Science Program), and Laverne Bitsie-Baldwin (Multicultural Engineering Program). Members were given a tour of various teaching and research labs, and officers of various student organizations and competition teams each gave an overview of their activities.

The council discussed at length the need to be more proactive in the recruitment of students into both electrical and computer engineering. A marketing plan for promoting and raising awareness of ECE and ECE-related career opportunities is being developed, and the initial stages of that plan should begin soon. We will be seeking support from our alumni to help reach out to prospective students, guidance counselors, and other student mentors. If you are interested, please do not hesitate to contact the department head.

Current Members of the advisory council are:

- David L. Abrams
- Roderick K. Blocksome
- Gerals O. Burnham
- Michael R. Casey
- Douglas W. Doefler
- William N. Dowling
- Energy, Inc.
- Stuart Gillen
- Cal Gooden
- Mark Graham
- Neeraj Magotra
- Ann Martin
- Douglas L. McKinley
- Craig Mehan
- Terry R. Weaver

