DEPARTMENT HEAD’S MESSAGE

It is my pleasure to present the sixth edition of the ECE Engineer. This is a wonderful opportunity to share some of the most exciting news from the ECE Department in the 2004-05 academic year, a year in which our ranking according to U.S. News & World Report improved from 54th among 149 programs (64th percentile) to 50th among 168 (70th percentile).

The Department’s research activities have been steady, robust growth. In FY2004, ECE accounted for approximately 15 percent of the University’s and 60 percent of the College of Engineering’s research awards. Awards totaled $16.5 million, and research expenditures reached $13.5 million. The Applied Communications and Information Networking Project, led by Dr. Moshe Kam, received the largest single award, totaling $9 million. Other grants exceeding $1 million were awarded to projects led by Dr. Karen Miu ($2.2 million from the Office of Naval Research), Dr. Chika Nwanwka ($1.8 million from the Department of Energy) and Dr. Gary Friedman ($1.38 million from the National Science Foundation).

The achievements of our faculty members continue to set the Department apart. In the past year, Dr. Kam led the University’s re-accreditation as a National Security Agency Center of Excellence, Dr. Kam and Dr. Arthina Petropulu were elected vice presidents of IEEE, Dr. Adam Fontecchio won the International Liquid Crystal Society Multi-Media prize and Dr. Bahram Nabet, with the support of the Italian Ministry of Finance, helped establish a transnational joint laboratory between Drexel University and the Italian National Nanotechnology Laboratory in Lecce, Italy.

Our alumni and students were also recognized for their excellence. Dr. Benjamin Yellen ’04 received the Benjamin Franklin Key Award of the IEEE Philadelphia Section, which recognizes an electrical engineer for contributions with significant societal impact. Dr. Alfred Bove’62 was appointed chief of cardiology at Temple University School of Medicine and Temple University Hospital. Derek Halverson, an ECE graduate student, received an NSF Graduate Research Fellowship Award, a highly competitive and selective honor.

A very successful recruitment effort this year brought three new faculty hires: Baris Taskin from the University of Pittsburgh, Bo Hong from the University of Southern California and Dr. Youngmoo Kim, a 2003 MIT graduate and senior research scientist at Nellymose, Inc.

In April 2005, the Bossone Research Enterprise Center was completed. ECE expects to be fully settled into this state-of-the-art facility by the beginning of September.

The Department endured some sadness in recent months. One of ECE’s most beloved emeriti professors, Martin N. Kaplan, passed away on January 26. However, his memory endures with the dedication of the Martin N. Kaplan Electric Power and Machines Laboratory.

I hope you will enjoy reading about the latest developments in ECE. To learn more about our Department’s activities and accomplishments, please visit www.ece.drexel.edu.

In Loving Memory: Professor Martin N. Kaplan

Martin N. Kaplan, Francis C. Powell Professor Emeritus of Electrical Engineering, died on January 26 at age 85.

Professor Kaplan graduated from Central High School in 1937 and received his bachelor’s degree from Drexel University in electrical engineering in 1943. After serving in the Merchant Marines during World War II, he began teaching at Drexel. He taught at Drexel University for 56 years, serving as assistant professor, associate professor and acting department head before becoming Powell Professor Emeritus on his retirement in 1989. In 2003, he gained the distinction of being Drexel’s oldest faculty member, teaching an ECE class at the age of 83.

In addition to Doris, his wife of 63 years, Professor Kaplan is survived by daughters Judy Kaplan and Ruth Kaplan-Kramer; son-in-law Steve Kramer, grandson Joshua Kramer, brother Murray and nephew Ken. A memorial tribute was held March 10 in George D. Behrakis Grand Hall, with nearly 300 people attending.

Professor Kaplan established the Martin N. Kaplan Faculty Award Fund and supported many other scholarships and programs in the College of Engineering. In honor of his memory and his lasting impact on the Department, the University and the lives he touched during his 60-plus years at Drexel, the ECE Department named the Martin N. Kaplan Electric Power and Machines Laboratory in his honor on June 17.

Bossone Research Enterprise Center

The I.M. Pei-designed Edmund D. Bossone Research Enterprise Center, the University’s state-of-the-art home for research, was dedicated on March 1. The $38 million, 155,000-square-foot facility provides high-tech space to students and faculty in key research areas including nanotechnology, telecommunications and information networking and tissue engineering. Named for Drexel alumnus Edmund Bossone ’53 (inset right, with Dean Selçuk Güçeri), the Center is located on Market Street between 31st and 32nd Streets. ECE has begun moving into its beautiful new home, with two new wireless conference rooms, several new laboratories and an outstanding environment in which to teach and work.
Dr. Bruce Eisenstein Appointed Associate Dean

Dr. Bruce Eisenstein, Arthur J. Rowland Professor of Electrical and Computer Engineering, was named associate dean in the College of Engineering and executive director of the Drexel Engineering Curriculum (tDEC) last August 24. Dr. Eisenstein leads Drexel’s undergraduate engineering curriculum, a national leader in innovation, and continues Drexel’s reputation as a premier institution for engineering education. He will focus on the “three Rs”—retention, relevance and relationship—to attract and retain the best students and address the challenges that have come with pervasive changes in the practice of engineering over the past decade.

Drexel Re-designated NSA Center of Academic Excellence

The National Security Agency (NSA) re-designated the University as a Center of Academic Excellence in Information Assurance Education for the academic years 2004-07. Drexel’s application for re-designation was authored by Center director Dr. Moshe Kam, Robert G. Quinn Professor of Electrical and Computer Engineering. The application included a University-wide “inventory” of courses, research projects, publications, presentations and dissertations in information assurance, as well as a review of information assurance policies, resources and action plans; a forecast of future developments at Drexel; and a detailed mapping of University courses to NSA requirements (more than 100 in number). The National Centers program, established in November 1998, helps NSA partner with colleges and universities across the nation to promote higher education in information assurance.

ECE Faculty Recognized at Research Day 2005

For 2004, seven ECE professors—Drs. Gary Friedman, Moshe Kam, Karen Miu, Prawat Nagvajara, Dagmar Niebur, Chika Nwankpa and Harish Sethu—were named members of the prestigious 106 Club. The Club recognizes those faculty members whose total research grants as PI or Co-PI reached or exceeded $1 million during the previous fiscal year.

Wayne Hill Honored by University

Wayne Hill, director of lab services and assistant dean for college facilities, received the Harold M. Myers award for outstanding service to the University on June 1, 2005. He was recognized for the outstanding effort and guidance he lent to the construction of the Bossone Research Enterprise Center.

ECE Department head Dr. Nihat M. Bilgutay (second from left) with 2005 ECE award winners (left to right) Dr. Kevin Scoles, Dr. P. M. Shankar, Dr. Harish Sethu, Eric Savage, Dr. Alfred Bove and Eric Gallo. (Dr. Jie Yu was unable to attend the ceremony.)

Awards and Recognition Ceremony

The 2005 ECE Awards and Recognition Ceremony took place on July 19 at the Paul Peck Alumni Center. The awards went to outstanding faculty members, students and alumni for their dedication to the Department and pursuit of excellence in their areas of expertise. Congratulations to this year’s winners:

Dr. Harish Sethu, ECE Outstanding Research Award
Dr. Kevin Scoles, Thomas W. Moore Distinguished Teaching Award
Dr. Mohana Shankar, Martin N. Kaplan Distinguished Service Award
Eric Savage, Robert Quinn Outstanding ECE Undergraduate Student Award
Jie Yu, Allen Rothwarf Outstanding ECE Graduate Student Award
Eric Gallo, Allen Rothwarf Outstanding ECE Graduate Student Award
Dr. Alfred Bove, ECE Distinguished Alumni Award

E-Learning Program

The ECE Department will begin Web-based graduate course offerings leading to an M.S.E.E. degree via Drexel e-Learning, Inc. (www.drexel.com) in fall 2005.

U.S. News & World Report Rankings

The 2006 U.S. News & World Report graduate rankings were announced this spring, and the ECE Department joined the top 50 programs in the nation. The specialty rankings are based on reputation surveys; ECE improved from 54th out of 149 programs (64th percentile) in the 2005 survey to 50th out of 168 (70th percentile) in 2006.

New Staff Member

Megan Parker-Johnson joined ECE last November 1 as research and development program coordinator. Megan received her bachelor’s degree in history from Brown University in 2004.

Advisory Council Appointments

Dr. Barry Stein was appointed chair of the ECE Advisory Council after Fred Palmer’s decision to step down. Fred had served as chair since 1998, and the ECE Department warmly thanks him for his dedication and leadership. Dominic Villecco was appointed the first vice chair of the Council. The Department looks forward to working closely with both Barry and Dominic in the coming years.
Dr. Nagarajan Kandasamy joined the ECE Department in September. Dr. Kandasamy received his bachelor’s degree in computer science and engineering from Anna University in Madras, India in 1995, and his master’s degree from the University of Connecticut in 1997. He earned his doctorate in electrical engineering and computer science in 2003 from the University of Michigan, where he was a research assistant in the Advanced Computer Architecture Lab during his studies. His research and teaching interests are in dependable systems and computing, embedded and real-time systems, distributed systems, fault diagnosis, computer-aided design, computer architecture, digital systems testing, operating systems and software engineering.

Dr. Paul Oh, assistant professor of mechanical engineering and mechanics, and Dr. William Regli, associate professor of mathematics and computer science and mechanical engineering and mechanics, recently became affiliated faculty members.

The Department will welcome three new professors in fall 2005: Bo Hong, Baris Taskin and Dr. Youngmoo Kim. Mr. Hong is a Ph.D. candidate at the University of Southern California whose interests lie in parallel and distributed computing systems and performance optimization in high performance computing. Mr. Taskin a Ph.D. candidate at the University of Pittsburgh and works with high-performance VLSI circuits, mixed-signal system design and optimization methodologies. Dr. Kim received his Ph.D. from MIT in 2003 and will work with music and audio analysis/synthesis, machine understanding of audio for information retrieval and entertainment media technologies. The new faculty members’ areas of interest correspond well with the future vision of the Department, and ECE looks forward to having these exceptional new professors join its ranks.

Who’s Doing What

Dr. Nihat Bilgutay served as the finance chair for the IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP) held in Philadelphia in March.

Dr. Adam Fontecchio received the International Liquid Crystal Society Multi-Media prize at the International Liquid Crystal Conference in Slovenia.

Dr. Moshe Kam was elected in November to serve a one-year term beginning January 1 on the IEEE’s Board of Directors as vice president of educational activities.

Dr. Bruce Eisenstein was elected treasurer and chair of the investment committee of Eta Kappa Nu, the national electrical and computer engineering honor society.

Dr. Alex Meystel will retire at the end of August. In his 21 years with the ECE Department, Dr. Meystel made many outstanding contributions to his field and to the University. Interim Provost Dr. Ali Houshmard approved Dr. Meystel’s appointment as Emeritus Professor of Electrical and Computer Engineering effective at his retirement, so he will continue to be active in the Department.

Dr. Karen Miu and Dr. Harish Sethu received tenure and were promoted to the rank of associate professor, as approved by the University Board of Trustees in May 2004.

Dr. Stewart Personick, who previously served as the E. Warren Colehower Endowed Chair Professor and director of the Telecommunications and Information Networking Center, rejoined the faculty as a distinguished research professor.

Dr. Athina Petropulu was the general chair for IEEE’s ICASSP in March. Dr. Petropulu helped make the conference a success, arranging special opportunities such as the chance for 24 high school girls and five high school teachers to participate. (Support for this outreach and mentoring was provided by the College of Engineering and the National Science Foundation.) Earlier in the year, Dr. Petropulu was elected to serve on the IEEE Signal Processing Society Board of Governors in the capacity of vice president of conferences for 2006 through 2008.

Dr. Karen Miu

Dr. Nihat Bilgutay

Dr. Adam Fontecchio

Dr. Bruce Eisenstein

Dr. Alex Meystel

Dr. Karen Miu

Dr. Stewart Personick

Dr. Athina Petropulu

Dr. Paul Oh

Dr. William Regli
Dr. Jaudelice C. de Oliveira and Dr. Steven Weber were awarded an NSF NeTS-NR (Research in Networking Technology and SystemsNetworking Research) grant. The budget for this four-year project is $270,000. The testbed is part of a $300,000 equipment grant from Cisco Systems.

Dr. Gary Friedman as PI received a $1.38 million grant from NSF Nanoscale Interdisciplinary Research Teams, with Dr. Nily Dan of the Department of Chemical and Biological Engineering as Co-PI. The funding was for a project, “NIRT: Magnetically Driven Assembly of Heterogeneous Nanosystems,” in which Drexel is partnering with Carnegie Mellon University, the University of Pittsburgh and the University of Akron. Also, Dr. Friedman (PI), Dr. Adam Fontecchio and Dr. Yury Gogotsi (Department of Materials Science and Engineering) along with two University of Pennsylvania investigators were awarded an NSF Major Research Instrumentation grant totaling $300,000 for their proposal, “Acquisition of ICP System Within Two Universities/One Campus Framework.”

Dr. Moshe Kam and affiliated ECE faculty member Dr. Spiros Mancoridis of the Department of Computer Science were awarded $464,000 from Lockheed Martin as a subcontract to a Defense Advanced Research Projects Agency project under the SAPIENT program (Situation-Aware Protocols In Edge Network Technologies). This is a spin-off activity from Drexel’s ACIN project and is a further endorsement of Drexel’s ever-growing leadership in information assurance and security. Also, Dr. Kam received $303,000 from the Office of Naval Research for the project “DURIP: Large Scale Instrumentation Facility for Simulation and Design of Distributed Control Plants,” with the objective of building a full-scale instrumented distributed control network capable of duplicating and analyzing control architectures for current and future U.S. Navy ships.

Dr. Timothy Kurzweg and Dr. Andy Hicks of the Department of Mathematics garnered a $250,000 award from NSF’s Computer Vision Program for their proposal “Micromirror Arrays for Imaging Sensors.”

The Italian Ministry of Foreign Affairs allocated 250,000 Euros ($325,000) to establish a joint laboratory between Drexel University and the Italian National Nanotechnology Laboratory in Lecce, Italy. Professors Roberto Cingolani of NNL and Bahram Nabet of the ECE Department are co-directors of this unique transnational laboratory.

Dr. Athina Petropulu received an NSF NeTS (Research in Networking Technology and Systems) award in the amount of $360,000. Her project is called “NeTS Alliances.”

Shubham Bhat, a doctoral student of Dr. Timothy Kurzweg and Dr. Alon Guez, won the 2004 International Society for Optical Engineering Optics East Best Student Paper Award for “Simulation and Experimental Verification of Model-Based Optoelectronic Packaging Automation.” The award was presented at the Optomechatronics Sensors, Actuators, and Control Conference in October.

Regina Cagle, an electrical engineering sophomore, received the 2005 Undergraduate Scholarship Award sponsored by Urban Engineers, Inc., at the Delaware Valley Engineers Week awards banquet at Villanova University.

At Drexel’s Research Day 2005, two ECE posters took home Undergraduate Dean’s Awards. The first was “Trajectory Based Routing in Wireless Ad-Hoc Sensor Net-works” by Dr. Fernand S. Cohen, Josh B. Goldberg and Dr. Jaudelice C. de Oliveira. The second was “Relay Selection in Wireless Networks that Employ User Cooperation” by Frank X. Prihoda and Dr. Athina Petropulu.

Joshua Freedman, a graduate student of Dr. Adam Fontecchio, was awarded an NSF Drexel/University of Pennsylvania Integrative Graduate Education and Research Traineeship Fellowship for 2005-06.

Derek Halverson, a graduate student of Dr. Gary Friedman, received the 2005 NSF Fellowship. This is a very competitive fellowship and one of the best funding opportunities available to graduate students in the United States. It has a stipend of more than $31,000 per year.

Zayd Hammoudeh, an undergraduate computer engineering student doing research under the supervision of Dr. Moshe Kam, won the Undergraduate Student Research Award at Honors Day 2005 for his work in the area of information agents on mobile ad hoc wireless networks.

Erwei Lin, an electrical engineering doctoral student advised by Dr. Moshe Kam, won the Graduate Student Research Award at Honors Day 2005 for his outstanding research in the area of distributed control for naval application.

Alia Sabur, the youngest Ph.D. student in the United States, was named one of “Twenty Teens Who Will Change the World” by Teen People in April, a week before she

continued on back
Dr. Alfred Bove ’62 was appointed chief of cardiology at Temple University School of Medicine and Temple University Hospital. He is an emeritus professor of medicine at Temple University School of Medicine and previously served as associate dean. He has conducted research in basic cardiac physiology, coronary disease, exercise physiology, environmental medicine and computer information systems in medicine. His current research, funded by the National Institutes of Health and the Pennsylvania Department of Health, involves management of heart failure and cardiovascular risk factors using an Internet system for patient-to-physician communication. Dr. Bove, an expert in Web design and medical database development, is the editor in chief of the American College of Cardiology’s educational Web site, www.cardiosource.com. He also directs the Temple University Underwater Medicine program, which has provided postgraduate training in environmental medicine to more than 400 physicians in its 31-year history.

Dr. Bove received his bachelor’s degree from Drexel in 1962, his M.D. from Temple University in 1966, and a doctorate in physiology and bioengineering from Temple in 1970. He is a member of the IEEE, a fellow and trustee of the American College of Cardiology, a fellow of the American College of Physicians and a member of the Undersea and Hyperbaric Medical Society. Dr. Bove was chosen by the ECE Department as the ECE Distinguished Alumnus of 2005.

Kenneth C. Dahlberg ’67, chief executive officer of Science Applications International Corporation, was inducted in May into the Drexel 100, the University’s most prestigious alumni society.

Dr. Benjamin Yellen ’04 received the Benjamin Franklin Key Award for his “pioneering contributions in magnetic drug delivery systems to specific sites in the human body” at the 2005 IEEE Philadelphia Section Annual Awards and Recognition Banquet in April. The award recognizes an electrical engineer for outstanding technical innovation and technological contributions that have significant societal impact. Dr. Yellen received his doctorate in electrical engineering at Drexel in the fall of 2004; his doctoral advisor was Dr. Gary Friedman. Currently, Dr. Yellen is an NIH Postdoctoral Fellow at Children’s Hospital of Philadelphia. He has accepted a faculty position as assistant professor of mechanical engineering and materials science at Duke University beginning in fall 2005.

Dr. Alfred Bove

David DeCampli ’79 is vice president of asset management for Exelon Energy. In this capacity he is responsible for Exelon Energy Delivery’s system planning function and the identification, selection and prioritization of capital and maintenance investments to improve the performance of the electric and gas energy delivery systems. He has served as vice president and chief integration officer for Exelon Energy Delivery, vice president of regional operations for ComEd and vice president of operations strategy responsible for the initial merger integration of the PECO and ConEd energy delivery units.

David DeCampli

Melvin Garner ’64 and John Kaewel ’82, ’86 received the College of Engineering’s Alumni Circle of Distinction Award during 2005 Engineers Week.

Melvin Garner

Mr. DeCampli serves on the Business Council and Board of Trustees of La Rabida Children’s Hospital in Chicago and is a committee member of the Association of Edison Illuminating Companies Power Delivery Committee. He holds a master’s degree in organizational dynamics from the University of Pennsylvania. He and his wife, Pam, live in Elmhurst, Ill.

Dr. Benjamin Yellen

Dr. DeCampli

Dr. Joseph DeMaio is a pre-junior computer engineering student who will graduate in 2007. Currently he is on a co-op assignment at SAP America working with a networking group. Drexel has shown him that "there are different ways to learn than being in class,” and that hands-on experience provides perspective a student can use to more accurately gauge his or her interest in a particular field. Experiential learning has helped Joe discover that he wants to delve deeper in the areas of networking and hardware design as he continues to pursue his undergraduate degree.

Joseph DeMaio

Savannah Trump is a dual bachelor's/master’s computer engineering student who will graduate in June 2006. She is working on a co-op at Honeywell in software development for control systems. The B.S./M.S. program and the co-op program helped draw her to Drexel, and she feels that both programs have been worthwhile. Her experience at Drexel has made her “more independent and confident academically” and has given her an invaluable introduction to such skills as building a resume and finding a job. After graduation she expects to continue as an engineer in industry.
The ECE department relies on the generous support of alumni and friends to sustain our excellence in programs and facilities. All it takes is a couple of hours of your time. You will be able to meet and encourage our new students and motivate them to succeed in academics as well as in life. Such interactions are welcomed by our students and faculty. If you can volunteer your time and efforts, please let us know by returning this form to: Department Head, Department of Electrical and Computer Engineering, Drexel University, 3141 Chestnut Street, Philadelphia, PA 19104.

- I am willing to talk to freshmen.
- I am willing to mentor students.
- I am willing to participate in open houses.

Name 
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Telephone Number 
E-mail Address 

Please let us know about your career achievements so that we can include your activities in future issues.