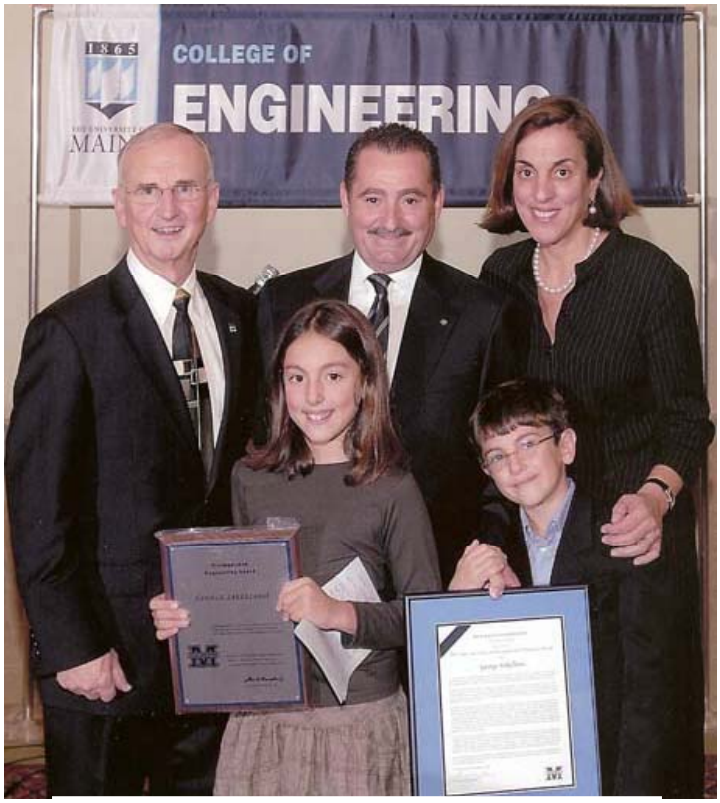
George Sakellaris Honored with 2007 Edward T. Bryand Distinguished Engineer Award



UMaine President Robert Kennedy (l), George Sakellaris, his wife, Cathy and children Christina and Peter.

George Sakellaris (BSEE '69) has received the 2007 Edward T. Bryand Distinguished Engineer Award for contributions to the energy industry and service to his community. George is founder, president, and chief executive officer of AMERESCO, an energy service company provider headquartered in Framingham, Massachusetts. He has founded three energy services companies that have generated more than $4 billion in energy efficiency, and alternative and renewable power for clients across North America.

Mr. Sakellaris came to the United States to attend the University of Maine as a young immigrant from Greece in 1965. Upon graduation from the University of Maine in 1969, he began a career with New England Electrical Systems (NEES), where he was responsible for strategic planning and recommending conservation strategies. While working, he pursued graduate education in electrical engineering and business from Northeastern University receiving his MSEE in 1975 and MBA in 1982.

In 1979, George launched NEES Energy, a subsidiary of NEES, and pioneered the energy savings performance contracting (ESPC) concept, which has become a cornerstone of the industry. In 1981, under Sakellaris' guidance, NEES Energy implemented the first ESPC at the Mercantile Wharf in Boston. In 1987, he founded NORESCO, which designed, built and serviced energy efficient programs for a wide spectrum of businesses and organizations. George joined Equitable Resources, an integrated energy company, when it acquired NORESCO in 1997 and served as president and senior vice president of the corporation. George had a vision of creating an energy company that had the skills, capabilities and foresight to create energy solutions that went beyond just conservation and addressed a customer's entire energy stream. As a result he founded AMERESCO in April 2000, built on the principals of integrity, innovation and flexibility.

Mr. Sakellaris' experience and influence have helped to shape the energy industry over the past 20 years, making him a respected leader in the energy services industry. In Sept. 2005, Mr. Sakellaris was invited by former President Bill Clinton to speak at the Clinton Global Initiative Conference in New York City, participating in a session on "Unlocking Innovation: Global Business and New Technologies." George is a founding member and former president of the National Association of Energy Service Companies (NAESCO), and is still on NAESCO's board of directors. He is a big supporter of the University of Maine Electrical and Computer Engineering Department.

Dr. Yifeng Zhu - 2007 Outstanding Research by Young Faculty Award

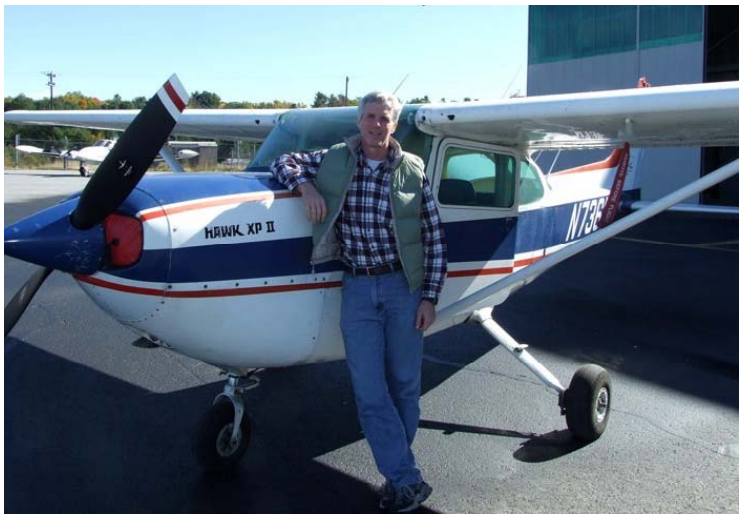
Dr. Yifeng Zhu, Assistant Professor of Electrical and Computer Engineering, has received the 2007 Award for Outstanding Research by Young Faculty. Yifeng (right, with Dr. Mohamad Musavi) received his PhD in 2005 in Computer Science at the University of Nebraska, as a brilliant graduate who won the Outstanding Master Student Award and the Outstanding Graduate Research Assistant Award two years in a row.

Yifeng's record of accomplishments in two years since joining the University of Maine in 2005 has been outstanding. He has demonstrated impressive research achievements in the area of high performance and energy-aware supercomputing. He has played major roles in projects collaborating with many researchers. He has been the principal investigator (PI) or Co-PI on 3 NSF awards and 4 equipment grants for a total of over $2 million. Since 2006, he has authored or co-authored over a dozen papers, including seven journal papers and six papers selected for presentation at prestigious conferences. He received the 2006 Academic Excellence Award from Sun Microsystems. Most recently, he co-authored with his students a paper that won *Best Paper Award* in IEEE CLUSTER'07, a top conference in his research field. Yifeng understands the value of multidisciplinary and interdisciplinary teams as well as individual effort. He has demonstrated the ability to excel as a leader as well as a team member on grants ranging from thousands to over a million dollars. He has continued to interact with his former university as well as forged and fostered collaborations at the University of Maine and throughout the state. His collaborations include such diverse areas as K-12 education, Supercomputing, Marine Science, Climate Change, Physics, and Geodynamics. His funding sources include NSF and NASA, as well as industries including Sun Microsystems, Altera and Xilinx.

Yifeng is also an excellent teacher, who provides the perfect blend of challenge and encouragement that help students perform at their highest levels. His feedback from students has been overwhelmingly positive, and his teaching is sought from outside the University. He significantly restructured one of his courses and introduced two new graduate courses, including

cluster computing and advanced computer architecture, which have attracted graduate students from a variety of disciplines. He has also conducted a highly valued two-week workshop in cluster computing at the Jackson Laboratory. In public service, Dr. Zhu has made significant contributions over and above the normal expectations for a junior faculty member contributing to the Department, College and University. He has served as reviewer, program committee member, panelist, publication chair and chair for conferences. He co-organized the 2006 IEEE R1 student conference with Dr. Ali Abedi, for which the University won the Friend of IEEE award.

ECE Professor Helps Students Get Their Wings



Rick Eason, Professor of electrical and computer engineering (ECE) is the advisor for the University Flying Club and the UMaine Ham Radio Club.

"Flying has never been like an adrenaline rush," says Eason. "I think if I had an adrenaline rush, I wouldn't be doing it. I want to have fun, but I want to live a long time, too."

Rick (shown here with his Cessna Hawk XP II four-seater at Bangor International Airport's General Aviation terminal) earned a private pilot license in 1979 as a graduate student and member of the flying club at the University of Tennessee. He says he is drawn to the sense of freedom he experiences while flying and seeing the world from above.

"In a car, you're just stuck to the road," he says. "An airplane can go virtually anywhere, and not just in two dimensions, but three."

The University Flying Club (http://www.umaine.edu/flyingclub) formed in the mid-1960s as a way to help undergraduate students earn private pilot licenses at a reduced cost, and to create a community for students with an interest in aviation. Since 1991, Eason has been adviser for the club, which meets in the Memorial Union on the second Wednesday of each month.

Of the group's 30 members, some are licensed pilots and some are students working toward a license. The club also has non-flying members who share an interest in airplanes. In addition to undergraduates, club membership includes graduate students and even a few community members. The club has its own airplane, a Cessna 152, and the $25 monthly fee covers maintenance and other expenses associated with the plane.

Members are looking for ways to elevate their visibility on campus, attract prospective members and maintain an adequate budget to cover costs. Eason says some club members are considering

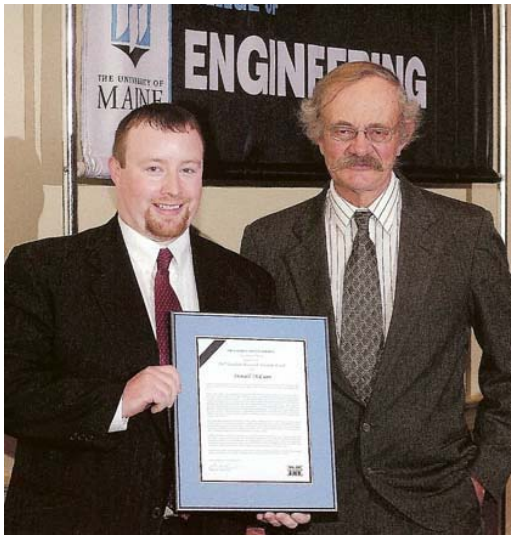
buying a second airplane, which would allow the club's active membership to double. Insurance restrictions limit active membership to 30 people for every airplane the club owns. The Flying Club has a waiting list with 15 people and even more students interested. Club members can sign up for pilot ground school, which is taught on campus, and can use the club's airplane if they are licensed, or they can fly with a flight instructor. Because the club is nonprofit, costs of ground school and flight training are less than most commercial schools.
Club President Anthony Fessenden, a junior mechanical engineering major from Farmingdale, earned his pilot's license a year ago, after passing ground school and accumulating the required 40 hours of flying time, mostly in the club Cessna. Now, with more than 100 hours logged, he has a part-time job at Bangor International Airport, working with pilots and ground crews for domestic flights, and is pursuing instrument and commercial flight training.

"By going through the university Flying Club, my total expenses were cut in half compared to many flight training programs," Fessenden says. "All things considered, the University Flying Club has opened gates to an exhilarating aviation career for me."

According to the Federal Aviation Administration, Maine has 2,817 pilots, including 370 student pilots and licensed private and commercial pilots.

"I'm really pleased that we're picking up the membership," says Eason. "We're trying to ramp up our visibility and participation, and we're looking for flight instructors. We're a club to help people get their license."

Graduate Research Assistant Award



Donald McCann, a doctoral student in the Department of Electrical and Computer Engineering has been awarded the 2007 Graduate Research Assistant Award. Don (left, with Dr. John Vetelino) earned his B.S. in Electrical Engineering from Cornell University and his B.S. in Physics from Ithaca College in 2000.

Don's research topic is exploring a novel method of exciting bulk exciting acoustic waves in piezoelectric sensor platforms. This technique consists of applying time varying electromagnetic fields to the sensor platform using an antenna in order to excite acoustic waves. This configuration is known as a Monolithic Antenna Excited Acoustic Transduction (MAEAT) device. This technique offers benefits such as minimal interactions with the sensor platform, a bare sensing surface that allows for the detection of mechanical and electrical property changes, and is capable of operating at high frequencies by exciting high order harmonics (> 91st harmonic) in the substrate. Several antenna geometries are being explored using AT-cut quartz as the sensor substrate. In addition the antenna configurations are being modeled to determine the form of their radiated electric fields. A

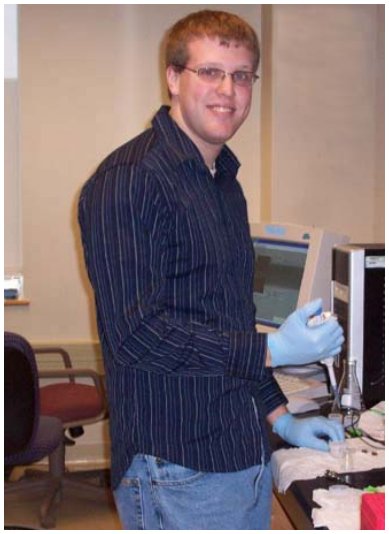
Lateral Field Excitation (LFE) device fabricated on $LiTaO_3$ is also being developed that exhibits high-Q operation up to 1 GHz by exciting high order harmonics in the device.

While a graduate students at the University of Maine, Don is a NSF Graduate Teaching Fellow in K-12 Education where he works with middle school teachers and students in Bucksport, Hampden, Orono, and South Bristol to share scientific knowledge and excitement about science and engineering. He demonstrates key science and engineering concepts to students through the use of hands on activities. Don is also a Research Experience for Undergraduate (REU) Advisor and mentors REU students during their summer research.

Don has had major contributions to small industry incubated from ECE research in sensors. In particular, he is the Principle Investigator (PI) on a major NSF-STTR Phase I project to develop a Monolithic Spiral Coil Acoustic Transduction (MSCAT) sensor for the detection of pathogenic *E. coli* in drinking water. He is responsible for the preparation of technical proposals to such agencies as NSF, USDA, NOAA, HSARPA, and MTI. Don has also had a significant number of publications and presentations at both national and international meetings.

GK-12 Sensors! Fellow Receives IEEE Best Student Paper Award

Mitchell Wark, a GK-12 Sensors! Fellow pursuing a M.S. degree in Electrical Engineering at the University of Maine received the Best Student Paper award at the 2007 IEEE Ultrasonics Symposium, held in New York, October 28-31, 2007. Wark's paper, "A Lateral Field Excited Acoustic Wave Sensor for Saxitoxin," was presented along with a poster session of the same title. The paper will be published in the 2007 IEEE Ultrasonics Symposium Proceedings. Co-authors of the paper are B. Kalanyan, L. Ellis, J. Fick, L. Connell, D. Neivandt, and J. Vetelino. Mitch, a native of Old Town, Maine, graduated in May 2006 from the University of Maine with a B.S. degree in Computer Engineering and a minor in Math.



Gifts/Donations

Gladys M. and Lloyd C. Palmer Scholarship or Department Aid, $10,000 by Gerald Palmer in memory of his parents.
Victor Jipson, $2,000 to Whitney Fund, November 6.
Robert Stewart, $1,000 to Whitney Fund, November 5.
A. Abedi received Network Modeler Software with Wireless Module, $80,000 value, OPNET Inc., October 1.
Quadic Systems, $4,687.50 for scholarships and $1,250 for Microdesign Lab, August 7.
Quadic Systems, $4,687.50 for scholarships and $1,250 for Microdesign Lab, November 26.

Grants Received

B. Segee, "Energy Software Updates," State of Maine Public Utilities Commission, $7,500, September 15.

A. Abedi received travel grant, "First GENI Conference," NSF, $1,250, Sept. 28.

A. Abedi received travel grant, "IEEE GLOBECOM Conference," IEEE ComSoc HQ, $1,000, Oct. 2.

R. Smith, "Nano-Technology Education and Experiences in Maine," NSF, $200,000 awarded Sept. 5. Project will start January 1, 2008.

Publications

Peer Review Journals

Y. Zhu, H. Jiang, J. Wang and F. Xian, "A Novel Distributed Metadata Management System for Large Cluster-bsed Storage," IEEE Transaction on Distributed and Parallel Systems (accepted, to appear) September 20.

A. Abedi, M.E. Thompson, A. K. Khandani, "Application of Cumulant Method in Performance Evaluation of Turbo Like Codes," IEEE Transactions on Communications, Vol. 55, No. 11, November 2007.

Peer Reviewed Conference Proceedings

A. Shaareef, **Y. Zhu**, **M. Musavi**, B. Shen, "Comparison of MLP Neural Networks and Kalman Filter for Localization in Wireless Sensor Networks", in the Proceedings of 19th IASTED International Conference on Parallel and Distributed Computing Systems, November 19-21, Cambridge, Massachusetts (accepted, to appear).

T. Schneider, D. Hauptmann, D. McCann and **J. Vetelino**, "Compact RF Impedance-Spectrum-Analyzer for Lateral Field Excited Liquid Acoustic Wave Sensors," Proceedings IEEE Sensors 2007 Conference, pp. 280-283.

Other

The "Mastering MATLAB" series of books written by Bruce Littlefield and Duane Hanselman has now crossed the 100,000 copy threshold. As of June 30, 2007, 103,665 copies have been sold. In addition to American and International English editions, this text has been translated into Chinese, Korean, and Portuguese.

Since October the faculty have submitted four proposals for a total of about $1,980,000.

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