William H. Lambert (BSEE'58) receives 2005 Edward Bryand Distinguished Engineering Award

William H. Lambert (center), a pioneer in cable television electronics received the 2005 Edward Bryand Distinguished Engineering Award, the highest honor bestowed upon one of the College of Engineering alumni each year. Pictured with Mr. Lambert is Mohamad Musavi, Chair of the Electrical and Computer Engineering Dept. (l) and Larryl Matthews (r), Dean of the College of Engineering

Mr. Lambert received his B.S. in Electrical Engineering from the University of Maine in 1958. He describes his time at the University of Maine as the "greatest four years" of his life, recalling a "wonderful experience" and a "tough curriculum."

Lambert's career in cable television began in 1960, and eventually took him to Philadelphia, El Paso, and Toronto. He spent the early years of his career as a design engineer with Solid State IF Circuits and Microwave Systems, Inc. He assumed part ownership of this company and held numerous management roles following its merger with General Instruments, Inc. Most of his career would be spent working for the company, which remains the largest supplier of hardware in the cable television industry.

From 1988-1997, Lambert served as Chairman, President and Chief Executive Officer of TSX Corporation, which was acquired by Arris in 1997. At Arris Corporation, Mr. Lambert served as Non-Executive Chairman of AM Communications. Today Arris remains a global telecommunications company specializing in the design and engineering of broadband networks.

Mr. Lambert has been involved in numerous corporate restructuring efforts, often working closely with groups facing severe financial difficulty in the face of a rapidly changing industry. In one instance he led a restructuring effort, which turned a $6 million loss into a gain of more than $10 million.

Lambert has distinguished himself as an individual who is unafraid of challenges. With characteristic Maine humor, he notes, "I may not be the brightest bulb in the chandelier, but I'm not the dimmest either."

Lambert received numerous awards for his work, including a Vanguard award from the National Cable and Telecommunications Association (NCTA) in 1996. This award recognizes the

indispensable contributions of the industry's equipment manufacturers and service suppliers, and is based on outstanding leadership qualities and significant contributions to the growth and development of cable television on the national level.

William H. Lambert lives in Palm City, Florida and Doylestown, Pennsylvania.

Faculty Award

2005 Ashley Campbell Award - Allison Whitney

Allison Whitney (BSEE '62 and MSEE '64) received the 2005 Ashley Campbell Award, which recognizes each year a faculty member in the College of Engineering for outstanding contributions to undergraduate education.

"During his 30 years at the University of Maine, Al has been the embodiment of every characteristic of a great teacher." The Chair of ECE Department stated in his introductory remarks. "He has affected the lives of hundreds of undergraduate students and has given the ECE Department an undisputable reputation for excellence and quality in education."

Al received his B.S. and M.S. in Electrical Engineering with high distinction from the University of Maine in 1962 and 1964 respectively. In 1962, Al joined the faculty of the ECE Department. In 1971, he joined Tibbetts Industries, Inc. and acted first as the Head of the Electrical Engineering Department for two years and then President & Chief Operating Officer of the Company until 1985. In 1986, Al rejoined the University of Maine and his alma mater as a lecturer.

Al has been in charge of all electronics courses in the department. His six junior and senior level courses comprise about 15% of the department teaching load. This has been a remarkably challenging task, particularly in the last two decades while the electronics industry has witnessed tremendous changes and evolved from the more traditional electronics subjects to a wide range of microelectronics topics. During this period, Al has been able to keep students abreast of technological changes and prepared them for excellent opportunities in the microelectronics industry. His students have been hired by companies such as IBM, Intel, National Semiconductor, Fairchild Semiconductor, Tundra Semiconductor, Analog Devices, Texas Instruments and many others. Al's accomplishments led to the Microelectronics Scholarship Consortium at the University of Maine that supports the University in training highly qualified graduates for the microelectronics industry.

Al is truly a dedicated and exceptional faculty member with great passion and care for his courses and students. He is always available for advising and answering his students' questions

regardless of how long it takes. Student evaluations of Al have been outstanding. Former student Matthew Rodrigue ('04) who was selected nationally as a Most Outstanding Electrical Engineering student by Eta Kappa Nu, and the Most Outstanding Engineering student by Tau Beta Pi, in his evaluation of Al states: "Al Whitney is perhaps the finest instructor I have had thus far at UMaine."

Al is one of the most active members of the department in committees and advising. He is a member of the ECE Curriculum Committee responsible for documenting all curriculum revisions and formulating curriculum related policies for faculty approval. He is an outstanding academic advisor for over 30 undergraduate students and is one of the first people that other faculty turn to when they have a student's advising question.

Al also has a great record of public service. He is an advisor for HKN and Tau Beta Phi honor societies, and is a member of Phi Kappa Phi, Sigma Xi, Tau Beta Pi, and Eta Kappa Nu. He also served as the chairman of the Maine section of IEEE, a member and president of the Board of Directors of Camden Health Care Center, and a member of the Board of Trustees of Northeast Health. He received the IEEE Centennial Award and the National Society of Professional Engineers Young Engineer of the Year for Maine in 1973. Al has been a Registered Professional Engineer since 1968.

UMaine Helping Microelectronics Industry

Microchips--the microscopic circuitry that makes iPods, cell phones, computers and cameras work or that can be used for parcel tracking purposes and inventory control--are hard to see much less design and build.

Because of the complex demands of the job, microelectronics is a challenging, high-pressure field with a shortage of trained electrical engineers in the United States. A new UMaine College of Engineering undergraduate course (ECE 498, Integrated Circuit Design) is changing that. This course, developed cooperatively with National Semiconductor Corporation of Santa Clara, California and South Portland, Maine, gives electrical and computer engineering students unusually early experiences in a field starved for trained personnel while at the same time stocking the labor pool for companies that need them.

The new course (which began Spring 2005) in integrated circuitry (IC) trains a dozen or more engineering students as juniors and seniors each year in analog design and testing. National Semiconductor will fabricate their designs for them at their South Portland fabrication facility and then return the assembled units to the students for testing. Students in the class are eligible for paid co-op internships with semiconductor product developers like National and a possibility of a job there after graduation.

"It's a very unique program," says Bijoy Chatterjee, Director of Virtual Laboratories at National Semiconductor Corporation in California. "There may be another 10 schools in the world that can do this kind of work at the undergraduate level."

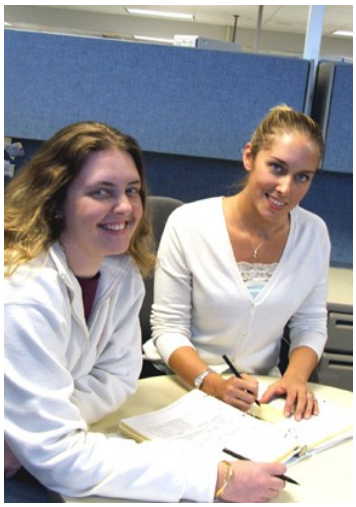
Participation not only gives UMaine's electrical engineering graduates a leg up on their peers from other institutions but also helps keep microelectronics jobs in the U.S., Chatterjee says.

The program helps National Semiconductor because it has access through internships to some of Maine's top engineering students, says Steve Swan, operations engineering manager of National Semiconductor in South Portland. He particularly likes Maine students to be a part of that labor pool, since they know what it's like to live and work in Maine.

"If you talk with some of the students, I think you'll find they are fairly positive and they got more out of their theoretical experience by having the practical design experience at the same time," says David Kotecki, Associate Professor of Electrical and Computer Engineering and one of the architects of the program.

The work experience gives students exposure to varied career opportunities within the field before they make final career decisions, says UMaine junior Lucas DeLong from Ludlow, Maine, currently an intern at National Semiconductor. "I know this experience will help me compete." DeLong says. "It's experience in the industry, and that's key to landing any job. It also gives me access to people I can use as contacts or references that I wouldn't have otherwise."

National Semiconductor is a member of the UMaine Microelectronics Consortium, along with Tundra Semiconductor, Fairchild Semiconductor, Analog Devices and Texas Instruments, which provides $1,500 scholarships for first-year students and $7,500 scholarships for upper-level students studying science and engineering and who have an interest in pursuing careers in the microelectronics industry.



The photo on the left shows National Semiconductor engineer Lacie (Halfacre) Kennedy (l) of Westbrook, a 2002 UMaine graduate, with former NSC co-op student and communications specialist Penny (Morton) Collins (r) of New Gloucester, a 2001 UMaine graduate. Both women were hired by the company after internships and graduation. The photo on the right is National

Semiconductor engineer Chris Qualey of Portland, who earned degrees from UMaine in 1993 and 1996 with UMaine engineering student and current NSC intern Lucas DeLong (r) of Ludlow, Maine in the NSC fabrication facility in South Portland.

Summer 2005 NSF Research Experience for Undergraduates in Sensors

During the Summer of 2005 highly qualified undergraduate students participated in research under the guidance of various faculty in the area of sensor science and engineering in the Electrical and Computer Engineering Department and the Laboratory for Surface Science and Technology (LASST). This program was under the sponsorship of the National Science Foundation. Pictured below are the participants.

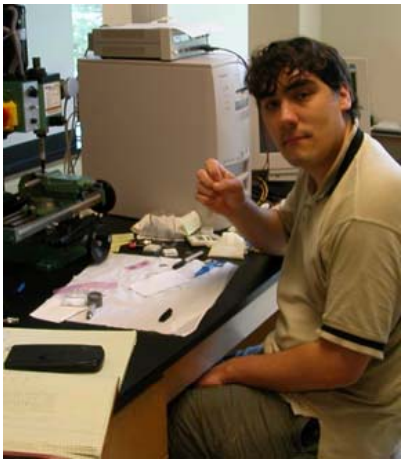
L-R: Sarah Langley (UM), Peter Davulis (UM), Shane Winters (UM), Diletha Kemp (Southern University, LA), Justin Tribbett (UM), Frank Breau (University of Rhode Island), Alejandro Naranjo (Rensselaer Polytech, NY), Mitchell Wark (UM), Kiva Hermansen (UM), John Vetelino (UM, Project Director), Jennifer Deane (UM), Dylan Montgomery (UM), Greg Flewelling (UM), Hampton Myers (Tulane University, LA) Antwon Brown (Benedict College, SC), Seth Morton (UM), Eric Bellinger (Benedict College, SC), David Haluska (UM).

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

GK-12 Sensors! Fellow Wade Pinkham, a graduate student pursuing a Master's in electrical engineering at the University of Maine was awarded Best Student Paper at the 2005 IEEE Ultrasonics Symposium, held in Rotterdam, The Netherlands. Pinkham's paper, "A Lateral Field Excited Acoustic Wave Pesticide Sensor," was presented September 20, 2005, along with a poster session of the same title. The paper will be published in the 2005 IEEE Ultrasonics Symposium Proceedings.

Several significant results Pinkham reported at the symposium were based on original research performed by Summer 2005 Research Experience for Undergraduate (REU)-sensors participants Mitchell Wark and Shane Winters, both co-authors for the paper. Pinkham mentored Wark and Winters's REU laboratory activities.

Mitchell Wark, a senior computer engineering major at UM, focused his REU project on the experimental study of sensitivity and reproducibility issues for novel Lateral Field Excited (LFE) acoustic wave pesticide sensor designs currently being researched at the UM Laboratory for Surface Science and Technology (LASST).



Shane Winters, a senior computer engineering major at UM, worked in LASST facilities experimentally determining the region of ensonification (responsiveness to sensing substance) for a number of Quartz Crystal Microbalance (QCM) and LFE device configurations.

Both Mitchell and Shane produced significant data advancing research related to Pinkham's ongoing research at LASST and publishable results.

Former ECE student inducted into Sports Hall of Fame

Dean Smith (BSEE'89 & MSEE'91), former basketball player for the University of Maine, was inducted into the UMaine Sports Hall of Fame.

Dean was a GTE/CoSIDA Academic All-American in 1988, 1989, and 1990. He received the 1990 Walter Byers Postgraduate Scholarship, awarded to the nation's top scholar-athlete. He is the namesake for the award presented to Maine's top student athletes each year. He led the North Atlantic Conference in scoring (19.0 ppg) his senior year and ended his UMaine career tenth on the all-time scoring list with 1,131 points. His 534 points in 1990 was the sixth best total in a season at the time and also earned him All-North Atlantic Conference honors. He graduated in just seven semesters in Electrical Engineering, and also received his master's degree from Maine. Dean Smith now does research on campus and also serves as the M Club's second vice president.

Gifts/Donations

The following companies donated equipment/money for use in ECE laboratories.

Altera Corporation - $13,940 Computer hardware/software for Computer Architecture and System Lab
Analog Devices - $5,000 Cash contribution for Microfabrication Lab
Quadic Systems - $4,409 Cash contribution for Microelectronics Design Lab
Xilinx Company - $11,746 Equipment/software for Wise-Net Lab

Grants Received

D.E. Kotecki, "TFAST," 4-month extension was approved Sept. 1, BAE Systems $12,500.

Publications

Peer Reviewed Journals

Y. Zhu and H. Jiang. "CEFT: A Cost-Effective Fault-Tolerant Parallel Virtual File System," Journal of Parallel and Distributed Computing (accepted)

Peer Reviewed Conference

A. Abedi and A. K. Khandani, "A New Method for Performance Evaluation of Bit Decoding Algorithms Using Statistics of the Log Likelihood Ratio," submitted to 4th International Symposium on Turbo-codes, April 2006, Munich, Germany.

A. Abedi, M.E. Thompson, A.K. Khandani, "Application of Cumulant Method in Performance Evaluation of Turbo-Like Codes," Submitted to IEEE International Conference on Communications (ICC 2006), August 12, 2005.

M. Pereira da Cunha, E. Berkenpas, P. Millard, "Novel O157:H7 *E. coli* Detector Utilizing a Langasite Surface Acoustic Wave Sensor," IEEE 2005 International Sensors Conference, Irving, CA, Oct. 31-Nov. 3. **(E. Berkenpas was one of 10 finalists out of 150 student papers that competed for best paper.)**

M.Pereira da Cunha, and J.W. Jordan, "Improved Longitudinal EMAT Transducer for Elastic Constant Extraction," 2005 Joint IEEE International Frequency Control Symposium and Precise Time and Interval (PTTI) Systems and Applications Meeting, Vancouver, CA, Aug. 29-31, 2005.

B.J. Meulendyk and M. Pereira da Cunha, "Significance of Power Flow Angle Interference Due to Finite Sample Dimension in Reflection Measurements," 2005 Joint IEEE International Frequency Control Symposium and Precise Time and Interval (PTTI) Systems and Applications Meeting, Vancouver, CA, Aug. 29-31, 2005 ***(Corresponding author)***.

T.D. Kenny and M. Pereira da Cunha, "Identification of New LTO HVPSAW Orientations Considering Finite Thickness Electrodes," IEEE 2005 International Ultrasonics Symposium Proceedings, Rotterdam, the Netherlands, Sept. 18-21, 2005. ***(Corresponding author)***. ***(THIS PAPER COMPETED FOR BEST STUDENT PAPER AWARD IN THE SYMPOSIUM. MADE SECOND AMONG THE THREE FINALISTS.***

E. Berkenpas, P. Millard, M. Pereira da Cunha, "A Langasite SH SAW O157:H7 *E. coli* Sensor," IEEE 2005 International Ultrasonics Symposium Proceedings, Rotterdam, the Netherlands, Sept. 18-21, 2005. ***(Corresponding author)***.

T.B. Pollard and M. Pereira da Cunha, "Improved Pure SH SAW Transduction Efficiency on LGS Using Finite Thickness Gratings," IEEE 2005 International Ultrasonics Symposium Proceedings, Rotterdam, the Netherlands, Sept. 18-21, 2005 ***(Corresponding author)***.

N. Saldanha, D. Puccio. M. Pereira da Cunha, and D.C. Malocha, "Experimental and Predicted TCD and SAW Parameaters on LGT [0, 132, Ψ] Substrates," IEEE 2005 International Ultrasonics Symposium Proceedings, Rotterdam, the Netherlands, Sept. 18-21, 2005.

C. York, L.A. French, P. Millard, and J.F. Vetelino, "A Lateral Field Excited Acoustic Wave Biosensor," Proceedings 2005 IEEE Ultrasonics Symposium, Rotterdam, Netherlands, Sept. 18-21.

W. Pinkham, M. Wark, S. Winters, L. French,l D. Frankel, J.F. Vetelino, “A Lateral Field Excited Acoustic Wave Pesticide Sensor,” Proceedings 2005 IEEE Ultrasonics Symposium, Rotterdam, Netherlands, Sept. 18-21. **(Chosen as Best Paper Award)**.

Other

Since October the faculty have submitted seven proposals for a total of about $3,600,000.

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