Distinguished Alumni Presents Lecture

Dev Vrat Gupta, Ph.D. (MSEE '75) was on campus Tuesday, April 11 to speak on "Ultra-High Speed Communications Systems Using Millimeter Wave Frequency." Dr. Gupta (shown here with his wife, Linda) is Founder, Chairman and CEO of Newlans. Newlans supplies components to implement millimeter wave based Local Area Networks and Digital Television Distribution networks in enterprise and residential applications.

Prior to Newlans, Dr. Gupta was President and CEO of Narad Networks and developed Cable TV networks based Gigabit Ethernet networking for small and medium business. In 1998 Dr. Gupta founded Maxcomm Technologies which developed voice and data integration products that could be provisioned over Telco DSL infrastructure. This included gateways in the home and in the central office that allowed ATM voice to be interfaced to the public switched telephone network. Cisco Systems acquired Maxcomm in 1999.

Dr. Gupta was President and CEO of Dagaz Technologies which he founded in 1995. Dagaz developed DSL Multiplexing equipment for the central office as well as associated premise equipment. In 1997 Dagaz was acquired by Cisco Systems and Dr. Gupta joined Cisco as VP and Chief Architect/Chief Technologist of Cisco's access business. Prior to Dagaz, Dr. Gupta was a senior executive at Integrated Network Corporation.

Dr. Gupta began his career at Bell Laboratories where he developed various Digital Transmission and Switching products. At the Consumer Product Laboratory of AT&T, he developed various products for residential and small business markets.

Dr. Gupta has a Ph.D. from the Univ. of Mass., Amherst, an MSEE from the University of Maine, and a B. Tech. EE degree from IIT Kanpur in India. He was named a Tech. Pioneer for the years 2001 and 2002 by the World Economic Forum.

Dr. Gupta has developed several successful companies two of which were acquired by Cisco System where he acted as the Vice President. His recent work lays the foundation of next generation Ultra-Broadband communication.

Row 1, l-r: Robert Lad, Yifeng Zhu, Dev Gupta, George Markowski, Row 2, l-r: Robert Metcalf, Mohamad Musavi, John Vetelino, Ali Abedi, Row 3: Mauricio da Cunha

Faculty Member to Retire

Allison Whitney (BSEE “62 and MSEE ’64) will retire this May after 30 years with the University of Maine.

Al first joined the ECE faculty in 1962. In 1971, he joined Tibbetts Industries, Inc. and acted first as the Head of the Electrical Engineering Department for two years and then President and Chief Operating Officer of the Company until 1985. In 1986, Al rejoined the University of Maine ECE Department as a lecturer.

Al has been in charge of all electronics courses in the department. During the last two decades while the electronics industry has witnessed tremendous changes and evolved from more traditional electronics subjects to a wide range of microelectronics topics, 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.

During his 30 years at the University of Maine, Al has been the embodiment of every characteristic of a great teacher. Al has been a truly dedicated and exceptional faculty member with great passion and care for his courses and students. 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. In 2005, Al received the Ashley Campbell Award which each year recognizes a faculty member in the College of Engineering for outstanding contributions to undergraduate education.

The ECE Department wishes Al all the best in his retirement.

As word of Al’s retirement has spread, several alumni and colleagues have given consideration as to how Al might best be honored. They have determined that a permanent endowment, in his name, will be an outstanding way to honor Al. Thus, the Allison I. Whitney ’62 Electrical Engineering Fund has been formed. Those alumni and colleagues who have been fortunate enough to learn and work with Al are encouraged to give to this fund. Its income will eventually help with purchasing equipment for the Electrical and Computer Engineering undergraduate laboratories. If you would like to make a gift to the new fund, you may send a check to the University of Maine Foundation, Two Alumni Place, Orono, ME 04469-5792. Be sure to indicate on the memo line on the check: Allison I. Whitney ’62 Electrical Engineering Fund, or include a short note with the check indicating that you wish to have the gift directed into that fund. You may also give to the fund online at https://www.umainefoundation.org/ssl_secure/. If you have appreciated stock that you would like to give, we recommend that you contact the University of Maine Foundation at 1-800-982-8503 for instructions.

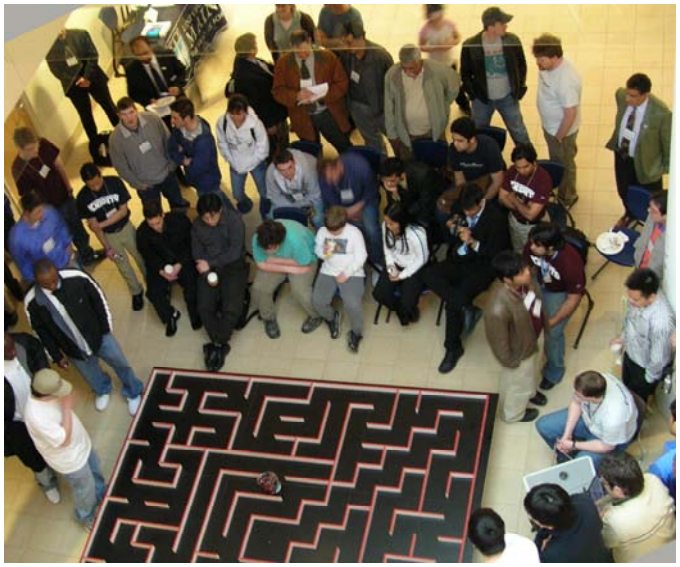
ECE Faculty Member Promotion

Mauricio Pereira da Cunha has been promoted to the position of Associate Professor with tenure in the Electrical and Computer Engineering Department.

Dr. da Cunha came to the University of Maine in January 2001 at the Assistant Professor level. Since his arrival here he has taught three courses in the areas of Sensor Technology and Microwave Engineering. He has published 14 journal papers and 36 conference papers. Research pictures from two of his papers were featured on the cover page of IEEE transactions on Ultrasonics, Ferroelectrics, and Frequency Control (UFFC) in 2002 and 2004. Five of his conference papers were among the finalists for best paper awards. From these, one was selected as the first and three as the second place winner. He has had 19 successful projects for which he acted as the Principal Investigator for 17 with a total funding of about $2.1 million.

In 2002, Mauricio received the Dean's Award for Excellence and in 2004 the College of Engineering Early Career Research Award. He has served in departmental and college committees, worked with industry, been invited to organize and chair an IEEE sponsored International conference, and reviewed numerous NSF proposals. Mauricio is the Associate Editor of the IEEE Transactions of UFFC and a senior member of the IEEE.

IEEE Region 1 Student Conference



A high-tech collection of robotic super-mice came together April 29, 2006, ready to pit the engineering and programming skills of some of the country's brightest young minds against one another as the 2006 IEEE Region 1 Student Conference was held in the Electrical and Computer Engineering Department at the University of Maine. Region 1 includes NH, MA, ME, RI, NJ, NY, VT and CT. This was the first time that the event was held in Maine.

More than 100 participants from across the Northeast registered for this year's event, which boasts the largest attendance ever

for the competition. This was the first time in more than 50 years of IEEE membership that UMaine has hosted the event, which is typically held on larger campuses in New York and Massachusetts.

Dr. Ali Abedi, Assistant Professor of Electrical and Computer Engineering at UMaine and Chair of IEEE Maine Communications Society, states, "We worked very hard to get the conference here this year. We have a great school, but people don't really know about the excellent facilities that we have here. "Having the conference here provided some good publicity for IEEE and for UMaine as well. It's a win-win situation," said Prof. Abedi.

L-R: Jim Reiss, Chair, IEEE Student Activities, Dr. Ronald Brown, Ron O. Brown Consulting Company, Dr. Babak Beheshti, Chair, IEEE Region 1 Student Activities, Marc Apter, Chair, IEEE Regional Activities Board, Dr. Ali Abedi, ECE Professor and Conference Chair, Christian Klien, Fairchild Semiconductor.

Utilizing widespread support for the event both on and off campus, Abedi was able to raise enough money to pay for travel, lodging, and meals for every participant, as well as boost the prize money for the top three competitors in each category.

The competition was divided into a more theoretical written competition and a hands-on challenge where students built an intelligent robotic mouse. Utilizing environmental sensors and artificial intelligence programming, the mouse must find the shortest way to the center of an elaborate maze and back without any outside assistance from its creators. For more pictures, visit our photo gallery at: http://www.eece.maine.edu/~cmiller/gallery/MicroCompetition and http://www.eece.maine.edu/~cmiller/gallery/MicroBanquet.

This conference was sponsored by the University of Maine Electrical and Computer Engineering Department, the College of Engineering, the Graduate School and the Office of the Provost. Other sponsors included the IEEE Maine Section, IEEE Region-1, IEEE Student Activities, IEEE Life Members and Fairchild Semiconductor.

First Ph.D. Student to Graduate from Electrical Engineering Program

Steven E. Turner graduated this May from UMaine with a Ph.D. in Electrical Engineering. He is the Department's first Ph.D. graduate.

Steven is a native of Maine having graduated from Westbrook High School. He came to the University of Maine in 1997 where he received his B.S. degree in May 2001 with a double major in Electrical Engineering and Computer

Engineering and a minor in Computer Science. He continued at UMaine receiving his M.S. in Computer Engineering in May 2003.

Steven focused his Ph.D. work on high-speed digital and mixed-signal components for X- and K_u- band direct digital synthesizers in indium phosphide DHBT technology. His advisor was David E. Kotecki.

Throughout his academic career, Steve has been the recipient of many awards including the Walter J. Creamer Award for Academic Excellence, Quadic Systems Microelectronics Scholarship, Robert N. Haskell Scholarship, National Semiconductor Scholarship, and Edward Holmes Scholarship, to name a few. Steve is also a member of Eta Kappa Nu, Tau Beta Pi and Phi Kappa Phi.

Steve has accepted a position at BAE Systems in Merrimack, New Hampshire.

2006 Annual IEEE Spring Banquet

This year's IEEE banquet was held on April 30, 2006 in the Buchanan Alumni House with about 60 people participating. The ECE department uses this occasion to recognize and give scholarship awards to individual students. Awards totaling more than $100,000.00 were made possible by the support of Microelectronic Consortium member companies, named scholarships, and by the generous support of our alumni. John Roberts ('03) from Bath Iron Works was the keynote speaker. Music was provided by Giang Nguyen on the piano.

Scholarship Recipients are listed below:

Endowed Scholarships	**Recipients**
Harold H. Beverage/RCA Scholarship	T. Bellamine, G. Nguyen
Beverage Award	A. Eaton
Carleton M. Brown Scholarship	R. England
Walter Joseph Creamer	K. Hermansen, A. Semle
Howard Crosby/Kenneth Parsons Award	G. Nguyen, A Semle
ECE Annual Alumni Scholarship	G. Flewelling
Robert N. Haskell Elec. Eng. Scholarship	G. Flewelling, J. Knarr, F. Schwaner, A. Semle, J. Withee,
David Dunlap Holmes Scholarship	R. Blanchette, P. Chandrasekar, L. DeLong, J. Tribbet
IEEE	A. Small
Fred H. Irons Scholarship	A. Eaton, A. Semle
Carroll R. Lee Scholarship	T. Bellamine, R. Blanchette, P. Davulis, L. DeLong, K. Hermansen, G. Nguyen, S. Winters, J. Withee,
Waldo M. Libbey Scholarship	R. England
Louis H. Morrison Scholarship	R. England, J. Knarr
John A. "Gus" O'Brien Scholarship	G. Flewelling

Edmund M. Sheppard Scholarship	G. Nguyen
Walter W. Turner Scholarship	R. England

Microelectronics Scholarships	**Recipients**
Analog Devices	T. Bellamine, J. Withee
Fairchild Semiconductor	A. Burgess (1st CHE), G. Henrikson (1st UND), A. Marsano (1st ELE), A. Narzynski (1st UND), Z. Noris (1st ELE), P. Chandrasekar, H. Purrington, R. Whitney,
National Semiconductor	A. Cutts (1st CEN), J. Mileson (1st CEN), M. Hebert, A. Roy
Tundra Semiconductor	J. Beaulieu, A. Semle, B. Townsend

ECE 1st Year Scholarship	D. Chamberland, J. Glass, D. Godwin, C. Gross, S. Kane, T. McGuan, E. McLellan, B. Newman, R. Urban, K. Willey

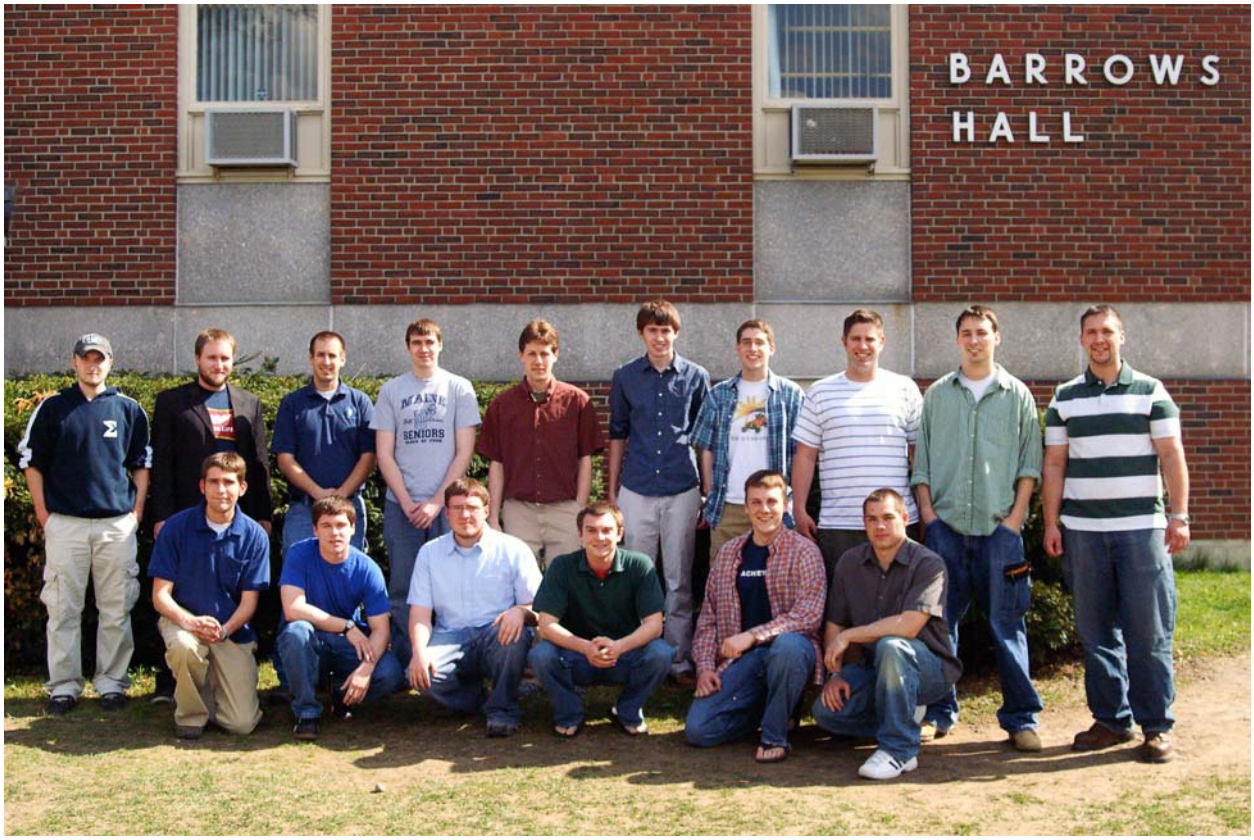
Graduate Scholarship and Assistantship Awards

On behalf of the Graduate Executive Committee, the ECE Dept. would like to announce the following graduate scholarship and assistantship award recipients for 2006-07.

Peter Davulis - Provost Fellowship
Caleb Carter - Trustee Tuition Scholarship
Janice Duy - Thurgood Marshall Scholarship
Bingxin Shen - University of Maine Graduate Research Assistantship
Donald McCann - Summer 2006 Graduate Research Fellowship
Jesse Parks - Summer 2006 Graduate Research Fellowship
Thomas Pollard - Summer 2006 Graduate Research Fellowship

Graduating Class of 2006

This May we had 21 graduating from which 11 have accepted employment with salaries up to 60,000 and five are going to graduate schools.



Left to Right: Row 1, Jonathan Long, Joseph St. Pierre, Brian Brunette, Michael Morris, Lloyd Michaud, Daniel Jurdak-Roy, Row 2, Zachary Richards, Joshua Brown, Roger Blanchette, Jason, Thomas, Mathew Drouin, Evan Dudzik, Peter Davulis, Ryan Bolduc, Ryan Edmonds, Joseph Kinney. (Absent from photo: Naser Alijabbari, William Bruschi, Lura Carroll, Stephen Fortune, Emilie Lachance, Ognjen Nikolic, James Testa, Justin Tribbet, Ankita Tyagi, Mitchell Wark)

Gifts/Donations

A gift of $50,000 was received from Fairchild Semiconductor. This gift included $30,000 for 2006-07 ECE scholarships, $15,000 for the Fairchild Quasi-Endowed Fund and $5,000 for the Microelectronics Laboratory Fund.

A. Abedi received $6,369 worth of equipment/software from Xilinx Company, Feb. 28, 2006.

Grants Received

A. Abedi, "Supporting ECE Micro-mouse team," $1,000, IEEE Maine Section, Feb. 8.

A. Abedi, "Sponsoring IEEE Student Conference," $3,000, Fairchild Semiconductor, Feb. 10.

D. Kotecki, "Direct Digital Synthesizer for TFAST," $14,834, BAE Systems, Feb. 10.

J. Vetelino (80%) and C. Holden (20%), "Track 2 GK-12: Sensors!," NSF, $1,825,755, Feb. 15.

Y. Zhu, "Building a System-On-Chip Laboratory at the University of Maine," $14,175, MSGC Higher Education, Feb. 22.

Y. Zhu (PI, 70%) and **B. Segee** (Co-PI, 30%), "High-end Computing Training Workshop at Jackson Lab," Jackson Lab, $5,000, Mar.

Y. Zhu (PI, 70%) and **B. Segee** (Co-PI, 30%), "Parallel Computing Training Workshop at Jackson Lab," Jackson Lab, $5,000, Mar.

A. Abedi, "Travel Grant to Visit NASA Johnson Space Center," MSGC, $1,200, Mar. 1.

A. Abedi, "Application of Error Correction Codes in Sensor Networks," Canadian Space Agency, $6,666.67, Mar. 22.

B. Segee, "Leveraging the Maine Laptop Initiative for Cluster," MSGC, $5,000, March 21.

Y. Zhu, "Build an Embedded System Lab," College of Engineering, $26,000, April.

Y. Zhu, travel stipend to attend the NSF sponsored Cyberinfrastructure Workshop to be held May 10-12 in Nashville, TN, $1,500, April.

J. Vetelino, "REU: Sensors Science," Year 2 funding, $83,160, April 11.

D. Kotecki, MOSIS Educational Grant, "Fabrication of DDS Circuits Designed in ECE 547," $15,540, April 27.

A. Abedi, equipment grant from SUN Microsystems, $11,091, May 10.

Publications

Peer Reviewed Journals

T. Kenny, T. Pollard, E. Berkenpas and **M. Da Cunha**, "FEM/BEM Impedance and Power Analysis for Measured LGS SH-SAW Devices," IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, Vol. 53, No. 2, February 2006.

Y. Zhu and H. Jiang, "A Novel Buffer Cache Management Scheme Based on Context and Location Awareness," ACM SIGMICRO Newsletter, Vol. 24, No. 1, 2006.

S. Turner and **D. Kotecki,** "Direct Digital Synthesizer with ROM-Less Architecture at 13-GHz Clock Frequency in InP DHBT Technology," IEEE Microwave and Wireless Components Letters, Vol. 16, No. 5, pp. 296-298.May 2006.

Peer Reviewed Conference

Y Zhu, and H. Jiang, "False Rate Analysis of Bloom Filter Replicas in Distributed Systems," accepted to be presented at the 35th International Conference on Parallel Processing (ICPP-2006), Columbus, OH, August 14-18, 2006 (Acceptance rate: 64/200=32%).

Other

Since March the faculty have submitted nine proposals for a total of about $2,600,000.

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