

September 2001

Welcome Back!

We just returned from our annual ECE Hike to Gulf Hagas with [many new photos](#). Please come with us next year. It's great.

We also had our "Meet the Faculty" dinner for new students where we learned, among many other valuable tidbits, that Prof. Al Whitney once spelled as an undertaker's assistant for a short while, and Prof. Mauricio P da Cunha has a brown belt in jujitsu!



Co-op Job Fair October 18!



We strongly encourage all our students to take advantage of co-op jobs - either for the summer, or a summer plus semester. This year, we're holding an Engineering Co-op Job Fair - here are the details:

University of Maine Engineering Co-op Job Fair
Thursday, October 18, 2001 10am-3pm
Wells Conference Center, Main Dining Room

This event is co-sponsored by the IEEE student chapter of the University of Maine, the University of Maine College of Engineering, and the Career Center. ECE students should also be sure to register their job interests on our [Job Status page](#). Many companies use our page to locate ECE co-op prospects.

Some of the companies participating include:

Analog Devices
Bath Iron Works
Cianbro Corporation
Domtar Industries Woodland Mill
Dufresne-Henry, Inc
Earth Tech, Inc
Enterasys Networks
Fairchild Semiconductor
IBM
International Paper
Maine Department of Transportation
National Semiconductor
Tundra Semiconductor

For more information, contact [John Roberts](#), IEEE Student Chapter President or [Patty Counihan](#), Career Center Director.

If your company would like to come to the Co-op Job Fair, it's not too late! Here are the [registration materials](#).

UM Microelectronics Scholarship Applications due THIS Semester!

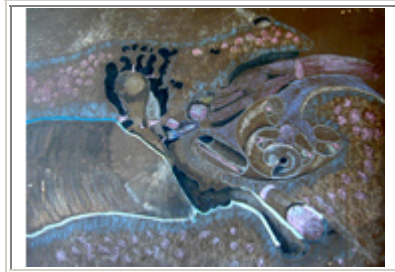


This year, the [Microelectronics Scholarship Consortium](#) award application process will be held in the Fall for current UM students. Note that current high school students will still apply in the Spring. This shift was made to more closely align the scholarship interviews with the co-op interviews at the University of Maine Engineering Co-op Job Fair October. Note the application deadline date is September 30. See the [new schedule](#)

We salute Prof. Mac Libbey ...

Dean Larryl Matthews and the College of Engineering will hold a luncheon to honor Professor Emeritus Waldo "Mac" Libbey this Homecoming, and all of Mac's former students are invited to attend! The luncheon will be **October 20, 2001 at 11:00 am at the Wells Conference facility** on the UMaine campus in Orono. We're looking forward to reminiscing with Mac.

Professor Libbey taught electrical engineering students at UMaine for 47 years (1943-1990.) He remains active and is extremely well regarded by generations of UMaine electrical engineers. Mac was instrumental in building the great reputation that UMaine engineers enjoy today, and we welcome the opportunity to pay tribute to his career.



A Prof. Libbey chalk masterpiece of the inner ear, for one of his acoustic engineering lectures. (Click to see larger image - 592 kb)



(Click to see larger image 276 kb)

As a part of this event, we would like to compile a book of memories from some of Mac's students. We would be extremely grateful if you would send us any special (or humorous) anecdotes. Even if you're unable to attend the luncheon, we would still like to include your stories in the book. Either mail them to Steve Adam, 5708 Barrows Hall, Orono, ME 04469 or email them to steven.adam@umit.maine.edu. Check out the [Homecoming Schedule!](#)

Large Percentage of Fortune 500 CEOs are Engineers

(Dana Humphrey, Chair of UM Civil Engineering, sent this item to me.)

The July 24, 2001 issue of USA Today reported that **18% of the Chief Executive Officers** for the Fortune 500 companies got their bachelors degree in engineering. This is the **highest of any degree** and beat out business administration at 15%, liberal arts at 15%, and economics at 7%. Degrees with lesser percentages were not reported.

Dana checked the US Dept. of Education website and found that in 1997/98 **only 6% of undergraduate degrees were awarded in engineering** and engineering related technologies. In contrast, 20% of the degrees were awarded in business administration and 35% in what UMaine would consider liberal arts. These statistics clearly show that **engineers hold a disproportionately high share of the CEO positions** in this country's largest companies.

And finally ...

Here's **why more supervisors/managers/CEOs should be engineers:**

A young engineer was leaving the office at 6 p.m. when he found his boss standing in front of a shredder with a piece of paper in his hand. "Listen," said the supervisor, "this is important, and my assistant has left. Can you make this thing work?"

"Certainly," said the young engineer. He turned the machine on, inserted the paper, and pressed the start button.

"Excellent, excellent!" said his boss as the paper disappeared inside the machine. "I just need one copy."

Publications, proposals, etc.

UNIVERSITY/COLLEGE/DEPT SERVICE

- J. Patton attended Executive Committee Meeting, July 11. D.E.
- D. Kotecki attended the ATM workshop on distance education, August 28

GRANTS RECEIVED

D. Hummels, "Underwater Digital Acoustic Telemetry System Development," Naval Undersea Warfare Center, \$24,019, August 2001

PROPOSALS SUBMITTED

- Musavi, M. (40%), Resson, H. (30%), Markowsky, G. (15%) and Stefanidis, A. (15%), in collaboration with scientists from NASA Stennis Space Center, Kennedy Space Center, Smithsonian Environment Research Center and Smithsonian Marine Station, "Planning Workshop on Biodiversity and Ecosystem Informatics for the Indian River Lagoon, Florida," NSF, \$50,000, July 11.
- DaCunha, M. and Vetelino, J., "Acoustic Surface Wave Research in LGX Crystals for Military Communication and Electronic Systems," Pre-proposal for DEPSCoR 2002 Competition, \$480,000, July 13.
- DaCunha, M., "Acoustic Filters for Wireless Applications Using High Velocity Acoustic Modes," NSF, \$375,000, July 17.
- Hummels, D., "Implementation and Demonstration of an Underwater Digital Acoustic Modem," Naval Undersea Warfare Center, \$40,441, July 25.
- Segee, B. (33%), Dwyer, D. (34%), Markowsky, G. (33%), "Super Cluster Distributed Memory Technology TMD Solutions," U.S. Army Space & Missile Defense Command, \$1,404,500, (DIC Project) July 26 .

PATENTS

- "Method for Forming a Ferroelectric Capacitor Under the Bit Line," U.S. Patent #6,255,157, L.L. Hsu, D.E. Kotecki, and J.A. Mandelman, July 3.
- "Easy to Remove Hard Mask Layer for Semiconductor Device Fabrication," U.S. Patent #6,261,967, S.D. Athavale, H. Shen, D.E. Kotecki and J. Lian, July 17.
- "DRAM Stack Capacitor With Vias and Conductive Connection Extending From Above Conductive Lines to the Substrate," U.S. Patent #6,262,450, D.E. Kotecki and W.H. Ma, July 17.
- "Overhanging Separator for Self-defining Stacked Capacitor," U.S. Patent #6,268,259, D.E. Kotecki and W.H. Ma, July 31.

PUBLICATIONS

- "Use of Clustering to Improve Performance in Fuzzy Gene Expression Analysis," R. Reynolds, H. Resson, M.T. Musavi, and C. Domnisoru, International Joint Conference on Neural Networks Proceedings, Washington, DC, pp. 2738-2743, July 2001.
- "Intelligent Control of Critical Dimension in Photolithography Process," H. Resson, M.T. Musavi, and S. Khan, International Joint Conference on Neural Networks Proceedings, Washington, DC, pp. 486-490, July 2001.
- "Using Streaming Media in the Classroom", J. Patton and K. Hermansen, Proceedings of the 2001 ASEE Annual Conference, Albuquerque, NM, June 24-27
- "Web-based Exercises for a First-Year Electrical and Computer Engineering Course" Isaac Horn, Robert Reynolds, John Field, Proceedings of the 2001 ASEE Annual Conference, Albuquerque, NM, June 24-27
- "The Best of All Worlds - A First-Year Course at the University of Maine" Eric Beenfeldt, John Field, Isaac Horn, Janelle Tonti, Edward Williams, Proceedings of the 2001 ASEE Annual Conference, Albuquerque, NM, June 24-27
- Amos, M. and Segee, B.E., "Micro-controller based Heater Control for Gas Sensors", 2001 ASEE Annual Conference Proceedings, Albuquerque, New Mexico, June 2001
- Amos, M. and Segee, B.E., "Neural Network Processing using Database Management Systems", 2001 ASEE Annual Conference Proceedings, Albuquerque, New Mexico, June 2001
- Acharya, B., and Segee, B.E., "A Web-Enabled Distributed Door Entry System", 2001 ASEE Annual Conference Proceedings, Albuquerque, New Mexico, June 2001
- Segee, B.E., and Acharya, B., "Generic Data Mining Application", 2001 ASEE Annual Conference Proceedings, Albuquerque, New Mexico, June 2001
- Case, M. and Segee, B.E., "A PIC-based LCD Display for Stand-Alone Instrumentation", 2001 ASEE Annual Conference Proceedings, Albuquerque, New Mexico, June 2001
- Horn, I. and Segee, B.E., "Computer Building Seminar for Engineering Students", 2001 ASEE Annual Conference Proceedings, Albuquerque, New Mexico, June 2001

PROFESSIONAL ACTIVITY

C. Domnisoru participated in the Nucleic Acid and Protein Sequence Analysis Workshop, at Pittsburgh Superconducting Center, Pittsburgh, PA, July 7-14.

D. Kotecki reviewed paper for the Journal of Vacuum Science and Technology, July 9.

R. Eason had been collaborating in steganography research with Dr. Kawaguchi, a colleague at Kyushu Institute of Technology in Kitakyushu, Japan, July 17-August 30, 2001.

J. Vetelino and M. DaCunha attended Acoustic Sensors Workshop, Tahos, New Mexico, August 28-September 2.

J. Vetelino and M. DaCunha attended Electrochemical Society Meeting, San Francisco, CA, September 2-4.

D. Kotecki reviewed a paper for the Journal of Vacuum Science and Technology, Sept. 5.

B. Littlefield attended the 2001 Usenix Annual Technical Conference in Boston June 24-29

B. Littlefield reviewed four papers for the LISA 2001 Systems Administration Conference to be presented in San Diego in December 2001.

PRESENTATIONS

D.C. Malocha , M. Pereira DaCunha, E.L. Adler, D. Puccio and K. Knapp, "Measurements and Predictions of SAW Parameters and Device Performance on LGT-X Substrates," IEEE International Frequency Control Symposium, Seattle, WA, June 4.

D.C. Malocha and M. Pereira DaCunha, "Sensitivity Analysis for Extraction of Material Constants for Trigonal Crystal Classes," IEEE International Frequency Control Symposium, Seattle, WA, June 4.

H. Resson, "Computational Intelligence and its Applications," at Agent Institute 2001 Presque Isle Conference, Presque Isle, June 6, 2001.

H. Resson, "Neural Network-Based Estimation of Chlorophyll-A Concentration in Coastal Waters," at SPIE International Symposium on Optical Science and Technology, San Diego, CA, August 2, 2001.

H. Resson, "Neural Network-Based Estimation of Phytoplankton Primary Production," at SPIE International Symposium on Optical Science and Technology, San Diego, CA, August 2, 2001.

