

September 2002

2001-2002 Grads - Where are they now?



Based on Senior Exit Interviews, we can give you some idea where our graduates from last year are headed. Those with university destinations are going to Grad School. Of six who did not have their situations settled before they left, two or three didn't start looking for positions until after they graduated. In light of the economy in the past year, I think we did very well. We know where the following students are going:

Ryan H	Bethel	EE	Tundra Semiconductor
Rodney L.	Butler	EE	ZF Lemforder Corporation
Michael J	Case	EE	Portsmouth Naval Shipyard
Prashanth	Chandrasekar	CE	Cornell University
Ken A	Cochrane	CE	Fairchild Semiconductor
James A	Cook	CE	May Department Stores
Matthew V	Crouse	CE	GE Power Systems
Alma	Delic-Ibukic	EE	University of Maine
David W.	Knapp	EE	IBM
Trent J	Krummel	EE	Portsmouth Naval Shipyard
Sara J	McCabe	EE	Portsmouth Naval Shipyard
A	Morrison	EE	Great Northern Paper Company
Michael S.	Oakes	EE	US ARMY
Tarun	Rathnam	CE	Georgia Institute of Technology
Bradford J.	Raymond	EE/CE	Computalog subsidiary of Precision Drilling Corporation
Kamal M	Shannak	CE	University of Maine
Aaron N	Strange	CE	University of Maine
Jeremy A	Thiele	EE	University of Maine
Stephen M.	Tibbetts	CE	Sensor Research and Development Corp.
Janelle C	Tonti	EE	Texas A&M University
Lisa S	Wellman	CE	Rochester Institute of Technology
Samuel A	Winchenbach	EE	University of Maine

Incoming ECE Student Profile

We welcome the class of 2006! Forty five students were accepted in the ECE department this Fall; another twelve are either undeclared or from general engineering, but they're taking ECE101. Maine students make up 84% of the first year class.

SAT Scores

SAT	Verbal	Math	Total	Total >1300	>1400
CEN	573	627	1201	25%	4%
ELE	571	658	1229	38%	10%

High School Performance - Percentage of incoming students who are:

	1st or 2nd in class	in top 10%	in top 25%
CEN	12%	58%	96%
ELE	10%	53%	90%

ECE Student Named UM Board of Trustees Member



Matt Rodrigue, junior in Electrical Engineering from Farmington, Maine, has been asked by Governor Angus King to serve a two year term as a University of Maine System Trustee. Matt will be the sole University of Maine System student member of the Board of Trustees and will be actively involved in decisions at the Executive Board level. Many of the most important System decisions are made in closed door meetings of the Executive Board. Congratulations, Matt!

Engineering and Science Building Construction Begins ...

Construction on the new [Engineering and Science Building](#) has started in earnest. If you're nostalgic for the old Barrows Hall, see "[The Calm Before the Storm](#)". Some of the demolition can be seen in "[And the Walls Came Tumbling Down](#)". We plan to keep a running update on the construction progress.

Live web cam shot of current construction, looking toward the Memorial Union from second floor offices in Barrows

ECE - Where the jobs are ...



In a recent article in IEEE Spectrum, it is stated, "According to the U.S. Bureau of Labor Statistics, recent graduates with bachelor's degrees in electrical engineering should be greeted by a favorable job market this year." As seen above, our experience at UMaine seems to bear this out. "Myriad factors are influencing the EE job market, of course: the first wave of retirements among baby boomers, which is thinning the ranks of veteran engineers; the technology juggernaut that is overwhelming all aspects of society and driving demand for technical professionals; and the profound effects of 11 September and consequent war efforts, which are stimulating the defense industry". For our own part, we placed more of our students at Portsmouth Naval Shipyard than we ever have before - at least in my memory.

IEEE Co-op Job Fair will be held October 24

The IEEE student chapter of the University of Maine and the Career Center announce the Second Annual Co-op Job Fair. This job fair is for all engineering co-op jobs, either for a summer or semester of employment. The job fair will take place Thursday, October 24th, 2002. This will be a good opportunity to hire some of the best students that Maine has to offer. The purpose of this event is to aid employers who are specifically interested in engineering students. This event will be organized so each organization will have a table to provide any appropriate information. Last year's fair was very successful, with over 200 students attending! If your company wants to participate, please contact John Roberts , President of the [UM Student Chapter](#) of IEEE (John.Roberts@umit.maine.edu)



Tidbits ...

- The ECE [Online Master's Degree programs](#) are off and running. A recent [feature in MaineScience](#) discusses the programs.
- The Electronics and Circuits Labs have new lab station equipment this year. This equipment will provide much greater flexibility. The early student reviews are positive!
- You may have noticed the new look of the ECE web page. The graphics are the work of Aaron Milligan, student in the UM Division of Lifelong Learning.



Electronics Lab - [Click to enlarge](#)

And finally ...

A true story about Charles P. Steinmetz (1865-1923)

Charles Proteus Steinmetz, an electrical engineer whose genius lived up to his middle name, worked at General Electric for many years. One day a whole roomful of General Electric's most expensive machinery went out of order. By this time Steinmetz had retired, but the company's baffled engineers called him back as a consultant. Steinmetz ambled from machine to machine, taking a measurement here, scribbling something in his notebook there. After about an hour, he took out a large piece of chalk and marked a large 'X' on the casing of one machine.



Workers pried off the casing and found the problem at once. But when the company executives got Steinmetz's bill for \$10,000, they were reluctant to pay it. "This seems a bit excessive for one chalk mark," Steinmetz was told. "Perhaps you'd better itemize your charges." Within a few days, they received the following itemized bill:

- Making one chalk mark \$1.00
- Knowing where to make one chalk mark \$9,999.00

Publications, proposals, etc.

UNIVERSITY/COLLEGE/DEPARTMENT SERVICE

- J. Patton attended Executive Committee meeting, July 10
- J. Patton attended Chair's Retreat, Buchanan Alumni House, Aug. 22

INDUSTRY VISITS: DATE INDUSTRY SCHOOL

J Vetelino	8/9/02	Bangor High School
J Patton	8/13/02	National Semiconductor, S. Portland
H Resson	8/15-16	IP, Bucksport
H.Resson	4/8/21-23	IP, Bucksport

GRANTS RECEIVED

- D.E. Kotecki and D.M. Hummels received a Mosis Education Program Research Grant for "Mixed-Signal Components for Bluetooth Receiver and Scalable Microprocessor in SiGe Technology - Phase 1," August 2, \$31,500.
- D.E. Kotecki received a Mosis Educational Research Grant for "Magnetic Sensor Integrated in Silicon" on August 14, \$15,500
- M. P. Da Cunha (50%), P. Millard (50%), "SGER: Detection of Bioterrorism-Linked Microbial Pathogens Using Surface Acoustic Wave Liquid Sensors," NSF, \$99,218, August 2002.

PROPOSALS SUBMITTED

- .H. Resson, "Integrated Computational Intelligence for Gene Expression Data Analysis," NSF, \$598,009, July 18, 2002.
- R. J. Lad (20%), S.D. Collins (20%), R.L. Smith (20%), D.J. Frankel (20%), and M.P. Da Cunha (20%), "Mask Generation System for Fabrication of Sensors, Microelectronic Devices, and Microsystems," US Dept of Defense, \$276,390, August 2002.
- M. P. Da Cunha , R. J. Lad, J. Vetelino, "Characterization of the LGX Family of Crystals for Military Electronic Systems Applications," Maine DEPSCoR Pre-Proposal, \$1,024,910, August 2002.
- D.E. Kotecki submitted a pre-proposal entitled, "Design and Testing of High-Speed, Scalable, Digital Integrated Circuits," to the State of Maine DEPSCoR competition, August 7, 2002.

PUBLICATIONS

- M.P. DaCuna and S. de A. Fagundes, "Metal Strip Reflectivity and NSPUDT Orientations in Langanite, Langasite, and Gallium Phosphate," IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, Vol. 49, #6, pp. 815-819, June 2002
- M.P. DaCunha and A. Y. Nakano, "Comparison Between ST-Cut Quartz 25o and -60o NSPUDT Propagation Directions," IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, Vol. 49, #6, pp. 820-826, June 2002
- M.P. Da Cunha, D.C. Malocha, E.L. Adler, and K.J. Casey, "Surface and Pseudo Surface Acoustic Waves in Langatate: Predictions and Measurements," IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, Vol. 49, No. 9, pp. 1291-1299, Sept. 2002.

PATENTS

- H. Shen, D.E. Kotecki, S.D. Athavale, J. Lian, G. Kunkel, and N. Chaudhary, "Method for Removal of Hard Mask Used to Define Noble Metal Electrode," U.S. Patent 6,420,272, July 16, 2002.
- J.P. Gambino, G.B. Bronner, D.E. Kotecki, and C.J. Radens, "Storage-Capacitor Electrode and Interconnect," U.S. Patent 6,429,474, issued August 6, 2002.

PROFESSIONAL ACTIVITY

- Resson visited the National Science Foundation and met with program directors, Washington, DC, June 30-July 5.
- D.E. Kotecki attended the IEEE meeting entitled: "Magnetic Random Access Memory Technology," in S. Portland, ME on July 11, 2002
- D.E. Kotecki attended the DoD Research Grant Opportunities Workshop in Bethel, ME on July, 10-11, 2002
- J. Patton attended and coordinated Northeast Electrical and Computer Engineering Department Heads Association meeting (NEECEDHA) at Hutchinson Center, Belfast, August 2-3, 2002.
- D.E. Kotecki reviewed a paper for the Journal of Vacuum Science and Technology, August 2, 2002.
- D.E. Kotecki and M.C. Wheeler submitted a white paper entitled, "Design and Evaluation of a CMOS Compatible Reliability Test Vehicle Incorporating On-Chip Thermal Control Devices," to the SRC in response to their call for white papers in Circuit Design, August 2, 2002.
- D.E. Kotecki submitted a white paper entitled, "Design of High-Speed, Scalable, ECL Based Logic using SiGe Technology," to the SRC in response to their call for white papers in Circuit Design, August 2, 2002.
- D. Kotecki attended the IEEE 2002 Board of Governors Summer Meeting and Section Officers Training Workshop in Ithaca, NY, August, 16-18, 2002.

