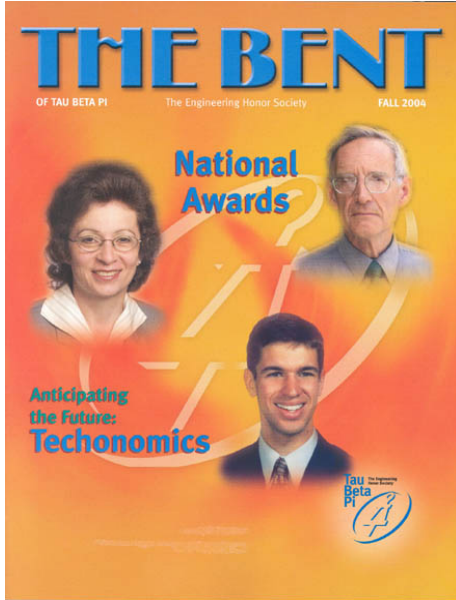


November 2004

## ECE Graduate in the National Scene



[Matthew Rodrigue](#) ('04) is a Tau Beta Pi Laureate for his diverse achievements in academics, athletics, and humanitarian service ([full story](#)).

In high school, despite asthma, he achieved All-American status in the 5km run twice. In college, when membership in the university's cross-country team fell short of his expectations, he initiated a local cross-country program in Orono High School, which turned into a job as head coach. During his three-year service, he directed his salary back to the school to be spent sending talented young runners to summer camps, building a 3.1 mile trail system, and hosting the school's first home meet in 20 years.

Matt became a student senator in his freshman year and elected to the position of president *pro-tempore*.

He was nominated by the governor to the Maine system's board of trustees representing 34,000 students across seven campuses. He sat on its strategic planning, labor relations, and student affairs committees.

In 2000, Matt helped restart the Sigma Phi Epsilon chapter, inactive since 1994. As chartering president in 2002, he created an environment where leaders, scholars, athletes, and gentlemen could distinguish themselves and invalidate the pervasive fraternity stereotype. The chapter was named the fraternity of the year in 2003.

In his Tau Beta Pi chapter, he was Treasurer, attended every initiation, and helped with new member education.

Matt has also been named the 2004 most outstanding electrical engineering student in the nation. Eta Kappa Nu ([www.hkn.org](http://www.hkn.org)), the national electrical engineering honor society, named Rodrigue as the winner of the Alton T. Zerby and Carl T. Koerner Outstanding Electrical Engineering Student Award.

Matt has been an invaluable member of our community, serving the university and his fellow students in numerous capacities, all while doing exemplary work in the classroom.

Matthew has accepted a job as a controls engineer with the consulting firm Woodard & Curran.

**Congratulations Matt!!**

## Engineering and Science Building Dedication



The Engineering and Science Research addition to Barrows Hall is now complete, and the dedication program was held on October 22, 2004. Introductions were given by Dr. Larryl Matthews, Dean of the College of Engineering with welcoming remarks from Dr. Robert Kennedy, Interim President of the University. Other speakers included:

- **Jack Cashman** '73 spoke on Maine's New Economy. Mr. Cashman is the Commissioner of the Dept. of Economic and Community Development.
- **Stephen Swan** '82 (Elect. & Comp. Eng.) spoke on Industry/University Partnerships. Mr. Swan is the Senior Process Engineering Manager at National Semiconductor in South Portland, ME. He is a member of the ECE Visiting Committee.
- **Mark Waite** '82 (Elec. Eng. Tech.) spoke on Launching Maine's Future. Mr. Waite is President of Launch Momentum LLC and VP of Stillwater Scientific Instruments.

The new addition houses the Laboratory for Surface Science and Technology and Electrical and Computer Engineering laboratories and offices. It includes a state-of-the-art clean room facility that will serve both the University research community and a wide variety of Maine clientele in such technology areas as semiconductor processing, micro-electromechanical systems (MEMS), sensors, and biotechnology. The 3,500 sq. ft. class 1,000 clean room is equipped with class 10 microenvironments and is available for research and development use by established companies, start-ups, Maine educational institutions, nonprofit research institutions, and other collaborators from New England and around the nation.

The program concluded with the dedication of the new Arthur St. John Hill Auditorium with remarks given from Dr. Waldo Libbey '43 (Electrical Engineering) Professor Emeritus Dept. of Elec. and Comp. Engineering. Present for the dedication are from l-r: Robert Kennedy, Interim President of the University of Maine, Mohamad Musavi, Chair, ECE Department, Larryl Matthews, Dean, College of Engineering, Mr. William Brewer (grandson of Arthur St. John Hill) and his wife, Sandra and Waldo Libbey.



## Spirit of Maine Achievement Award



**Linden McClure** ('89,'90) received the Spirit of Maine Achievement Award for outstanding career achievement from the University of Maine Alumni Association on October 22, 2004.

Dr. McClure designs technical workstation computers at Hewlett-Packard. He was a lead designer on the first McKinley (Intel Itanium 2) workstation, was a lead engineer on HP's first CD-RW disc drive, and has also contributed his expertise to space missions for NASA - serving as lead engineer on embedded systems for a Space Shuttle payload. In addition to working for Hewlett-Packard, he is also an adjunct professor at the University of Colorado where he teaches a course in embedded design. Dr. McClure was also inducted into the College of Engineering's Francis Crowe Society as a Distinguished Engineer.

While touring Barrows Hall and its new addition, Linden pointed to a lab and said, "It was in this lab with Professors Rick Eason, Bruce Segee, John Field, and Eric Beenfeldt that I became familiar with the principles of microcomputer designs."

## Outstanding Accomplishments in Research Award

**Mauricio Pereira da Cunha**, Assistant Professor of Electrical and Computer Engineering was selected by the College of Engineering to receive the 2004 Award for Outstanding Accomplishments in Research by Young Faculty. In the course of several short years, he has become a leading researcher within our Department, the College, and the University of Maine as a whole.



He has been funded by numerous agencies, including the National Science Foundation, the Army Research Office, and NASA. He is PI or Co-PI on research projects totaling more than \$3 million, which does not include numerous (additional) projects in which he participates as senior personnel.

Dr. da Cunha received a prestigious NSF CAREER award for his project entitled, "Acoustic Wave Filters for High Frequency Wireless Communication Applications." In addition to conducting state-of-the-art research that has garnered the attention of the international scientific and engineering community, Mauricio has effectively integrated his research topics and results into his undergraduate and graduate classes, inspiring the next generation of electrical and computer engineers.

A recognition ceremony will be held on Monday, November 5, 2004.

## Grants Received

D. Kotecki, "SerDes Design Initiative," Tundra. \$13,450, April 23.

Academic Council approved two curriculum fee proposals: "Computer Hardware Laboratory" (A Sheaff) for \$20,000 with \$4,000 matching from ECE; "MATLAB Software License Renewal" (B Littlefield) for \$4,740 with \$1,000 match from ECE.

R. Smith, R. Lad, and S. Collins, "Fabrication of Microneedles Using a Deep Reactive Ion Etcher (DRIE) Tool," DARPA subcontract-continuation contract transferred to UMaine. \$201,867, July 1.

M. da Cunha and P. Millard, "Detecting Microbial Pathogens with Novel Surface Acoustic Wave Devices," National Science Foundation. \$6,000, July 1.

M. da Cunha and P. Millard, "SENSORS: Detecting Microbial Pathogens with Novel Surface Acoustic Wave Devices," National Science Foundation. \$6,000, July 1.

A. Thomas (70%), K. Beard (10%), H. Resson (10%), S. Sader (10%), "Acquisition of an X-Band Satellite Data Groundstation for Regional Multidisciplinary Research," NSF, \$481,509, August 30.

D. Kotecki, "DDS for TFAST," BAE Systems. \$28,457, September 8.

C. Wheeler (50%), M. da Cunha (25%), H. Resson (25%), "SST: Integrated Fluorocarbon Microsensor System Utilizing Catalytic Modification," NSF, \$654,171, September 30.

M. Musavi (45%), P. Natarajan (45%), L. Nase (10%), "Introducing Engineering Information Literacy Course for Undergraduate Engineering Students," Engineering Information Foundation, \$39,349, October 26.

S. Collins (40%), R. Smith (40%), D. Kotecki (20%), "Near-Term Technology Development for Genome Sequencing," NIH, \$855,047, November 1.

## Patents

D.E. Kotecki and K.L. Saenger, U.S. Patent 6,727,174, "Methods for Fabricating a Dual-Diameter Electrical Conductor," April 27, 2004.

R. Smith, E. Lee, S. Collins and D. Howard, "Removable Tubing Interconnects for Glass-based microfluidic systems made using ECDM," filed July 2004.

## Publications

R.S. Varghese, M.T. Musavi, and H. Resson, "Fuzzy Confidence Value for DNA Bases," Proceedings of IEEE International Conference on Fuzzy Systems (FUZZ-IEEE 2004), IEEE Catalog #04CH37542C, ISBN 0-7803-8354-0, CD-ROM Edition, Budapest, Hungary, July 25-29, 2004.

H. Resson, P. Natarajan, S. Srirangam, M.T. Musavi, R.W. Virnstein, L.J. Morris, and W. Tweedale, "Neural Network Based Light Attenuation Model for Monitoring Seagrass Health," To appear in the Proceedings for the International Joint Conference on Neural Networks (IJCNN 2004), IEEE catalog #04CH37541C, ISBN 0-7803-8360-5, CD-ROM Edition, Budapest, Hungary, July 25-29, 2004.

J. Vetelino, C. York, L. French, Y. Hu and P. Millard, "A Lateral Field Excited Acoustic Wave Biosensor," *Chemical Sensors*, Vol.20, Sup. B, pp. 212-213, 2004.

J. Vetelino, W. Pinkham, L. French, Y. Hu and D. Frankel, "Pesticide Detection Using a Lateral Bulk Excited Acoustic Wave Sensor," *Chemical Sensors*, Vol. 20, Sup. B, pp. 262-263.

E. Berkenpas, S. Bitla, P. Millard, and M. da Cunha, "Pure Shear Horizontal SAW Biosensor on Langasite, is the winner to be the front cover image for the Special Issue on Acoustic Wave Sensors and Applications of IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control in the next issue.

## Other

The Visiting Committee (a group of industrial advisors who advise on educational needs in industry, the job market, the curriculum, and other issues of interest) visited the Department on September 30-October 1, 2004. The meeting was successful and informative.

Since April the faculty has submitted 15 proposals for a total of about \$6M.