the Beacon

The Monthly Publication of the Maine Section, IEEE www.ieee.org/maine

Welcome to a New Section Season!

Sept./Oct. '02
Volume 12
Number 1

Officers

Chair:
David Potts

Vice Chair:
Daniel Martin

Treasurer:
Merlin Smith

Secretary:
Thomas Carbone

Chair, Comm. Chapter:
{Open}

Chair, CS/EDS Chapter:
Steve Adler

Chair, PES/IAS Chapter:
David Conroy

Chairman's Message

by Dave Potts

I guess it's time to face it. Labor Day weekend has come and gone. The sugar maples are fringed in red and, in a couple of hours, my daughter will be climbing on the bus for her first day of kindergarten. Summer is over. Sailing and Storyland. Raft-ups and reunions. Camps and cookouts. Loons on the lake. Seals in the sea. It's been a full summer, even for Maine IEEE.

Ian Goepfert arranged a great Annual Meeting, held the Friday after Memorial Day, starting with an enjoyable cruise on Casco Bay aboard the Bay Mist (my kids particularly enjoyed running up and down between the decks playing tag and Hide-and-Go-Seek with Suresh Sundarraj's son and daughter). Even Mother Nature cooperated, delaying the fierce thunderstorms until we were all safely gathered at the Down East Village Restaurant. The food was good and the talks were quite interesting. Professor Rosemary Smith from UC Davis offered us an overview of some medical and biological applications of MEMS. Professor Bahaa Saleh, Chairman of the ECE Department at Boston University, shed light on how we could put a new 'spin' on imaging using quantum optic techniques. Jim Peterson, Director of Technology at DeLorme, discussed GPS mapping and software development (Brent Hill and Jim Patton were the lucky winners of some DeLorme CD's that Jim gave out - maybe now they can tell us if we CAN get to Millinocket from here).

During the Annual Meeting, we elected the following Section Officers for 2003:

Dan Martin:	*Chair*
Dave Kotecki:	*Vice-Chair*
Ian Goepfert:	*Secretary*
Merlin Smith:	*Treasurer*
Scott Dunning:	*Sr. Member-at-Large*

As Sr. Member-at-Large, Scott Dunning will be orchestrating next year's Annual Meeting. We are still seeking a Jr. Member-at-Large to assist him. If you would be interested in volunteering for this post, please contact Brian Conroy at 791-1023 or brian.conroy@cmpco.com.

Speaking of Brian, all of his and Dave Belanger's planning and preparation over the past couple years bore fruit as IEEE Milestones commemorating the 40th anniversary of the first live transatlantic satellite television broadcast were dedicated on July 11th here at Andover, Maine as well as at Goonhilly Downs, Cornwall, England and Pleumeur-Bodue, France (see article and pictures on the next page). We had over 100 attendees at the Maine dedication, including Joel Snyder, 2001 IEEE President, and Michael Geselowitz, Staff Director of the IEEE History Center. The Town of Andover really put out the welcome mat for us. I enjoyed perusing the special exhibits that were set up at the Town Hall and the Historical Society and was surprised at how small the Telstar satellite actually was (~3' in diameter, as shown in the photo on page 2).

Thanks to Brian Conroy and Dave Belanger for arranging this extraordinary Communication Chapter meeting. However, the IEEE requires at least 2 technical meetings per year to keep a chapter in 'active' status and we are still in need of another Communications Meeting before the end of the year. As such, we are seeking Communications Society members who would be willing to help organize future Communications Chapter activities. Brian Huntley has offered to serve as a central contact in this effort. All Communications Society members are urged to contact Brian at 236-5805 or *brian.huntly@mbna.com* to volunteer your time and ideas.

On the other end of the 'Chapter Activity' spectrum, Steve Adler along with the entire CS/EDS

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Maine Section a Host for Three-Way International IEEE Milestone Dedication

By Brian Conroy, Jr. Past Chair

On July 11, the Maine Section celebrated it's place in electrical engineering history by taking part in a three-way IEEE milestone dedication. That milestone was the first transatlantic transmission of a television signal via satellite and this signal was sent from an earth station in Andover, Maine.

Over 100 people attended the event here on the Andover Town Commons, which included:

- a live video conference (via satellite of course!!) between the three original earth stations in England, France, and Maine;
- dedication of the official IEEE Milestone on the commons;
- Telstar exhibits in the town hall;
- tours of the Andover Historical Society;
- a trolley ride tour of the Andover earth station; and
- lunch catered by the church on the town commons.

Walter Brown of Bell Labs (retired) speaks as reporters take notes during the video conference portion of the event

The pride and camaraderie of the towns people, AT&T veterans, Bell labs engineers, Andover Telephone alumni, MCI Worldcom employees and others involved in the project was apparent and infectious. The stories of the scale, schedule, and stunts surrounding the project were numerous, humorous, and colorful. A great time was had by all!

Many thanks to Dave Belanger for pulling this event together. It certainly was a day to remember!

(*Editor's note: Brian Conroy also did a great deal of work in helping plan for the milestone dedication. Thanks Brian*!)

The IEEE Milestones Plaque, Town Commons, Andover, ME

Section members Brian Conroy, Merlin Smith, Dave Potts, and Stan Koski (L-R) next to the Telstar satellite

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Chairman's Message *from page 1*

executive board has kept us hopping all summer with a series of informative meetings, including talks on SiGe in May, Linux in June, MRAM in July, Noise & Reliability in early August and the future of CMOS in late August. The CS/EDS Chapter has been sponsoring a seemingly endless string of interesting events this year, but end it will unless new volunteers are found from within their ranks to carry on their work. Computer and/or Electron Device Society members who are interested in getting involved should contact Steve Adler at 541-8018 or email him at:

Steven.J.Adler@nsc.com.

And now as I wave goodbye to my daughter on the bus, I realize that summers must end, daughters must grow up and seasons will come and go. Thanks to all who have made this great and active summer for the Maine IEEE. With your involvement, I look forward to many more exciting seasons in the time ahead.

UMaine Offers Online ECE Master's Degree Programs

The University of Maine ECE Department now offers online Master's Degree programs in Electrical Engineering and Computer Engineering. A variety of online graduate courses are designed to enable you to complete an Electrical or Computer Engineering Master's Degree program at a distance. These courses may be taken as part of the degree program or on a non-credit basis.

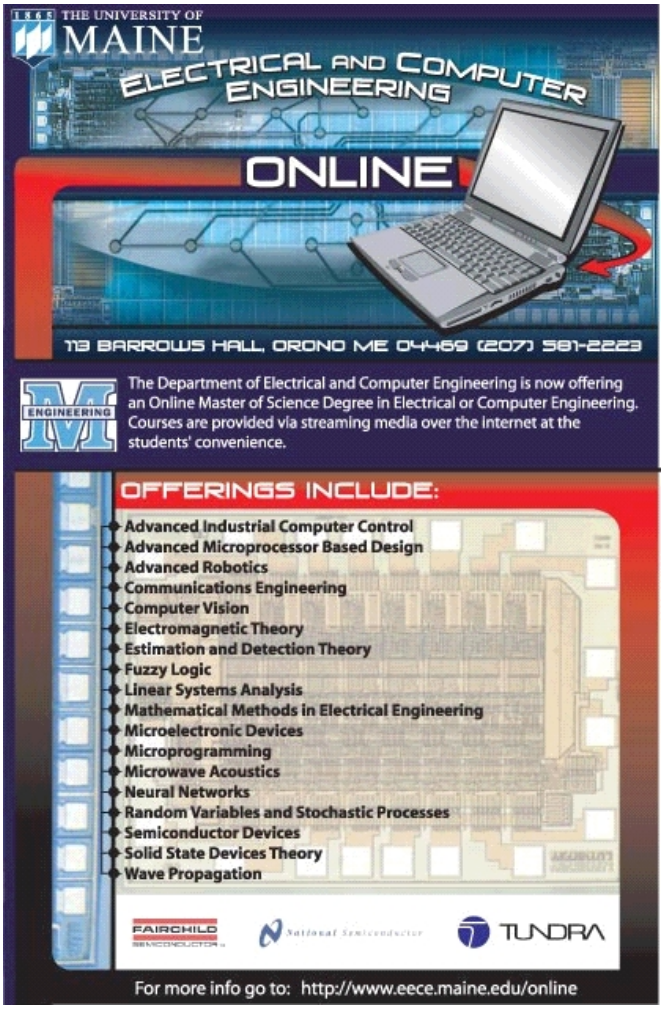
This fall, offerings include:

- ECE515 Random Variables and Stochastic Processes
- ECE565 Semiconductor Devices I
- ECE573 Microprogramming
- ECE590 Neural Networks
- ECE643 Microelectronic Devices II

The full schedule over the next few years is posted on the web site at *www.eece.maine.edu/online* along with a list of frequently asked questions.

UM wants you to achieve the best learning experience possible. If you have a special situation that either restricts you in some way or opens up other possibilities, they will work with you.

Please send email *(patton@eece.maine.edu) or call (207) 581-2223* for more information.



CS/EDS Chapter Meeting: Uncooled Infrared Detection

Dr. Donald Butler, Univ. of Texas at Arlington

October 10, 2002

Thermal imagery allows objects to be identified and imaged according to their different temperatures. The ability to image by temperature allows for remote thermometry, "nightvision" and the ability to see through smoke and inclement weather. A large number of applications from transportation with nightvision for cars, boats, and aircraft, policing and security, firefighting, and medicine exist for thermal imagery. Until recently, high performance cameras have required cooling to cryogenic temperatures. More recently, detectors operating at room temperature have been developed using micromachined bolometers and pyroelectric detectors. The 2000 Cadillac has implemented an uncooled nightvision system, which will migrate to other models in the near future. Temperature resolution across a scene on the order of 10 mK has been demonstrated with these "uncooled" infrared detector arrays. This talk will overview the principles of uncooled infrared detectors and the various microbolometer and micro-pyroelectric detector technologies being employed. Issues concerning the micromachining and fabrication of uncooled focal plane arrays will be presented.

Speaker: Dr. Butler joined the faculty of Electrical Engineering at the University of Texas at Arlington in 2002. His current research is focused on uncooled infrared detection, microelectromechanical devices (MEMS), pulsed laser deposition and annealing of thin films. He has been working on semiconducting YBaCuO uncooled infrared detection for the past eight years. He currently has published more than 85 journal articles and conference presentations and holds 4 patents. Dr. Butler is a senior member of the IEEE, a member of the SPIE, and the American Physical Society. He is active in the IEEE. For the past 13 years he has served in various positions for the IEEE. He is the Chair of the Dallas Section. He is a recipient of the IEEE Third Millennium Medal. He is an Electron Device Society Distinguished Lecturer.

Location and Registration: This talk will be held at Fairchild Semiconductor's Running Hill Road facility in South Portland. Reservations may be made by contacting Chan Sinnett by October 7th at *chan.sinnett@nsc.com* or (207) 541-6274. A nominal fee for the dinner will be collected.

Maine IEEE
Annual Dinner Social and Concert
Saturday, December 14, 2002

On Saturday, December 14, 2002, the Maine IEEE will hold its annual dinner social at Maria's restaurant in Portland. Participants are also invited to attend the Portland Symphony Orchestra's "Magic of Christmas" concert. This year, you may choose the matinee performance prior to the dinner social or the evening performance after dinner. As always, everyone is welcome.

2:00 PM **Portland Symphony Orchestra:**
***Magic of Christmas* Matinee**
4:30 PM **Dinner at Maria's**
7:30 PM **Portland Symphony Orchestra:**
***Magic of Christmas* Evening show**

Dinner Social

Join us for dinner and the final Maine Section IEEE meeting for 2002 at Maria's Ristorante. Maria's is located at 337 Cumberland Avenue, Portland. Near the Portland Public Market and easy parking, Maria's is a ten-minute walk from Merrill Auditorium and the Portland Symphony.

Concert

Nothing brings back, or creates new holiday memories, like music. From traditional carols to the Hallelujah chorus, the music of Magic of Christmas makes the season joyous. For 21 years, family and friends have come together to celebrate the Magic of Christmas at Merrill Auditorium, making it a beloved part of the season for thousands of people young and old.

We will purchase a block of (2:00 PM) matinee tickets for those of us who have young children, as well as a block of evening show tickets (7:30 PM.)

In order to help us order the correct number of tickets, and due to limited space for this popular event, registration is required by October 7th.

Dinner prices include taxes and gratuity. Please make checks payable to Maine IEEE for the total amount shown, and mail to:

Daniel P. Martin
PO Box 776
Gorham, ME 04038
(207) 839-6303 or
dmartin@acadiacontrols.com

Dinner Menu: The Florentine Buffet

Tossed Garden Salad

Freshly Baked Roman Garlic Bread

Breast of Chicken Parmigian

Baked Haddock w/lemon and seasoned breadcrumbs

Chef's selection of Fresh Vegetables

Baked Penne with Four Cheeses

Chef's Choice Dessert Selection

Maine Section IEEE Dinner Social 2002 Registration

Name: _____

_____	Matinee concert tickets at $21 each:	$ _____
_____	Adult dinners at $29 each:	$ _____
_____	Child (10 and under) dinners at $15 each:	$ _____
_____	Evening concert tickets at $21 each:	$ _____
	Total:	$ _____

VOLUNTEERS NEEDED FOR MIDDLE SCHOOL SCIENCE PROGRAM

A call is being sounded for those with a science or engineering background to return to school - this time to assist teachers in the science classrooms of local middle schools. The volunteers will be part of a joint endeavor between the University of New England and Northeastern University to re-establish a Science Volunteer Program in Mid-Coast Maine, after an absence of several years. This program (RE-SEED at Northeastern University), started by a grant from the National Science Foundation, is now sponsored by IEEE Life Members, United Engineering Foundation and many other individuals, corporations, and foundations The purpose is to review physical science concepts with qualified professionals and than arrange for volunteer placement in middle school science classrooms. Volunteers work on a scheduled basis to assist teachers and bring an additional perspective based on their years of professional experience.

To restart the Science Volunteer Program in the Mid-Coast area, the project seeks professionals with a science or engineering background who can attend training sessions on Saturday mornings and then be available to support teachers and students in the classroom. Those interested can receive more information by contacting Kit Juniewicz at the University of New England by e-mail at kjuniewicz@une.edu or by calling 283-0171, Ext. 2135.

Educational Opportunities for Section Members

MIT Advanced Study Program

Massachusetts Institute of Technology Advanced Study Program (MIT ASP) has become an IEEE Education Partner. IEEE members can now continue their lifelong learning with graduate-level, credit courses provided by MIT at a 10% discount. Current ASP courses include Systems Dynamics, a 24-monthcertificate program, and Economic Concepts for Engineers, a semester-long course. Offered over the Internet since 1995, the ASP is in its 33rd year of providing courses to off-campus graduates. Taught by MIT faculty, the online delivery takes advantage of the latest in technologies for working engineers to keep pace with developments in their fields or to enlarge their knowledge base. Admission is based on the applicant's academic and professional background.

Drexel University

Drexel University, Philadelphia's technological university, has become the newest IEEE Education Partner. IEEE members can now continue their lifelong learning with selected graduate-level, credit courses provided online by Drexel at a 10% discount. Current online programs offered to IEEE members through Drexel e-Learning, the university's online subsidiary, include Masters of Science in Information Science/Systems and Management and Certificate Programs. Tom Samph, President of Drexel e-Learning said:"This unique collaboration with IEEE reflects our joint commitment to offering educational opportunities to engineering professionals; providing them the skills and knowledge needed to advance in today's technology-driven environment."

In 2000 Drexel became the first major U.S. university to operate a fully wireless CyberCampus. The e-Learning program draws on the Drexel's110-year tradition in preparing engineers for successful careers. With 11colleges and schools, 175 degree programs and approximately 16,000 students, Drexel is one of America's leading private, nonprofit academic and research institutions.

Omniz Global Knowledge Corporation

Canadian company, Omniz Global Knowledge Corporation, has joined the IEEE Education Partners Program.

Available at a 10% discount to IEEE members are six technical courses, referred to as multimedia books, which are presented in a combination of CDROM and print. All six courses were developed by IEEE members Drs Michel Nakhla and Ram Achar, who are faculty in Electrical Engineering at Carleton University.

The current course list centers on signal integrity, with difficulty levels ranging from introductory to highly technical. The multimedia books cover such topics as macromodeling, principles of SPICE based simulation, transient analysis, and Krylov-Subspace Techniques. Each comes with exams to measure learning. The exams are graded and solutions are provided. The CD ROM format allows students to proceed at their own pace.

IEEE Fellow, Professor Nakhla, is one of the leading researchers in the world in the area of high-speed interconnect analysis. IEEE member Dr. Achar has received awards on his work on high-speed circuit and interconnect analysis, including the highly regarded Natural Science & Engineering Research Council doctoral award. They have both been published widely.

Note: Applications, course pre-requisites, and systems requirements for all these programs are detailed at the university -supplied website for IEEE members. You must use your IEEE member number to receive the 10% discount. Enter through the IEEE Educational Partners, *http://www.ieee.org/EduPartners*, and choose the appropriate university from the university partners. To learn more about the IEEE Education Partners Program contact Sasha Eydlin, IEEE Educational Activities, *s.eydlin@ieee.org.*

New Senior Member

The following Maine Section member was recently elevated to Senior Member status:

David H. Thomas

Congratulations!

Beacon Publishing

The Beacon is published on a monthly schedule based upon the need to advertise upcoming meetings. All material submitted for the Beacon must be received by the editor no later than the 15th of the month preceding the issue in which it should be included. Sorry, NO EXCEPTIONS!!

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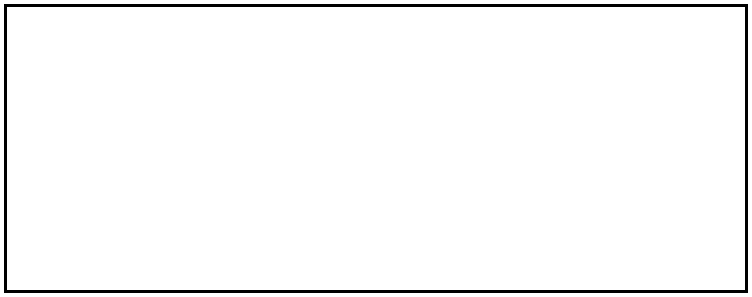

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