

# the Beacon

Support your  
Maine Section .  
Attend some  
IEEE events.

A Quarterly Publication of the Maine Section, IEEE [www.ieee.org/maine](http://www.ieee.org/maine)

## Chair's Column

by *David E. Kotecki*, Section Chair

Greetings,

Congratulations (any many thanks) to the following members who were elected at our annual meeting on 1 October to serve on the Maine Section Executive Committee for 2005:

Chair: Ian Goepfert  
Vice Chair: Scott Dunning  
Secretary: Mohamad Musavi  
Treasurer: Merlin Smith  
Member at Large: John Roberts

If you were not able to attend the annual meeting, you missed exciting presentations on entrepreneurship by Mark Waite and Dave Ferris and a talk on the 2003 north east power outage by Dave Conroy. Hopefully you can join us for the final event of the year: The Maine Section Holiday Social, on 4 December which includes dinner at Maria's and a presentation of the Victorian Nutcracker at the Merrill Auditorium.

For the professional engineers in the section, PES/IAS will be conducting three tutorials on electric energy measurements which are designed to provide PDH units. The Maine Section is considering offering additional short courses and tutorials which satisfy the Professional Engineering continuing education requirement next year. If you are interested in such a service, or have ideas on topics you would like to see presented, send us an e-mail at: [sec.maine@ieee.org](mailto:sec.maine@ieee.org)

As this is the last Beacon for 2004, let me express my thanks for being able to serve as chair of the state section for the past year and be the first to wish you a happy holiday season and joyous new year.

## IEEE Milestone Plaque for RCA

### Experimental Radio Station Site in Belfast, Maine.

The Maine Section is pleased to announce that a permanent bronze plaque marking the site of the "First Transatlantic Relay of a Live Radio Program" is being considered by the IEEE History Center for Belfast, Maine. (For more information, see page 4 of the June '04 Beacon.) The year 2005 will be the 80th anniversary of the 1925 transatlantic relay through Belfast. Look for an announcement in a future Beacon about a Maine section event in Belfast to dedicate the plaque honoring this important achievement in the history of radio broadcast communications.

Oct. '04  
Volume 13  
Number 3

### Officers

Chair:  
*Dave Kotecki*

Vice Chair:  
*Ian Goepfert*

Treasurer:  
*Merlin Smith*

Secretary:  
*Scott Dunning*

Chair, Comm.  
Chapter:  
*Brian Huntley*

Chair, CS/EDS  
Chapter:  
*Steven Leibiger*

Chair, PES/IAS  
Chapter:  
*David Conroy*

# Maine Section Holiday Social

## The Victorian Nutcracker

December 4, 2004

Please join the Maine Section members for a festive social occasion in Portland for all the family. The program includes the Victorian Nutcracker production either preceding or following dinner at Maria's restaurant. Those families with small children would probably want to attend the 2:00 PM performance at Merrill Auditorium followed by dinner at Maria's which will be available from 4:30 to 7:15 PM. Other members may want to first have dinner at Maria's and then take in the 7:30 PM performance of the Nutcracker. The information you need to plan for this special get together is summarized below.

**The Victorian Nutcracker performances:** 2:00 PM and 7:30PM in the Merrill Auditorium

**Merrill Auditorium location:** 20 Myrtle St. (next to City Hall)

**Maria's Restaurant location:** 337 Cumberland Ave. The Italian buffet will be served in the banquet room which is in the basement. Parking for Maria's is available behind the restaurant on Portland St. There is a rear entrance. Maria's phone number is (207) 772-9232

**The Italian Buffet menu:**

- Tossed 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
- Coffee Service
- Cash bar

**Event cost:** \$45 adult/\$25 child. This price includes both the dinner and the Nutcracker performance. If individuals wish to go either just the dinner or the show, then the cost will be \$30 for each event (dinner or show).

**Signup:** Please make reservations as soon as possible to ensure yourself a reservation for this event. You can make your reservations by contacting Ian Goepfert at (207) 761-3156 or by filling out and returning the coupon below to this address:

Fairchild Semiconductor  
82 Running Hill Rd.  
South Portland, ME 04106

Atten: Ian Goepfert

Name: _____	
_____ Adult dinner/evening show reservations at \$45:	\$ _____
_____ Child dinner/evening show reservations at \$25:	\$ _____
_____ Adult dinner/matinee show reservations at \$45:	\$ _____
_____ Child dinner/matinee show reservations at \$25:	\$ _____
_____ Adult and/or child dinner reservations only @ \$30:	\$ _____
_____ Adult and/or child evening show reservations only @ \$30:	\$ _____
_____ Adult and/or child matinee show reservations only @ \$30:	\$ _____
Phone no. _____	Total: \$ _____
E-mail _____	

The Maine PES/IAS Society Chapter

presents

**Topics in Electric Energy Measurement**

(in three short tutorials)

**Please note:**

See the next page for a detailed outline of the material to be covered in Tutorial I. A binder will be handed out during the Tutorial I session (10/28) that contains both the Tutorial I material and detailed outlines of the December tutorials (Tutorials II and III).

**TUTORIAL I:** Evolutions In Electricity Metering Technology ( 1 PDH )  
**DATE:** Thursday, October 28, 2004  
**PRESENTER:** *David Greenacre, PE, Central Maine Company*  
**LOCATION:** Captain Cote's ,Civic Center Drive, Augusta, Maine  
**AGENDA:** Social hour: 5:00 PM  
Dinner: 5:30 PM (choose beef, fish or chicken at the door)  
Presentation: 7- 8 PM  
**REGISTRATION:** Contact Paul Lerley before 10/26/04 @  
[Paul.lerley@cmpco.com](mailto:Paul.lerley@cmpco.com) or (207) 623-3521, ext. 3820  
**COST:** \$20, payable at the door

---

**TUTORIAL II & III:** Electricity Metering, Part 1and Part 2 (4PDH)  
**DATES:** Thursday, December 2 (II) and 9 (III), 2004  
**PRESENTERS:** *David Greenacre, PE and Alan Ladd, PE, Central Maine Company*  
**LOCATION:** Central Maine Company, Edison Drive, Augusta, Maine  
**AGENDA:** Presentations: 3 - 5 PM  
**REGISTRATION:** See above, Tutorial I  
**COST:** \$15 for both tutorial sessions II and III (covers handout material)

**MAJOR TOPICS**

**TUTORIAL II:**  
Three phase circuits  
Common transformer connections  
Blondel's Theorem  
Instrument transformers  
Basic watt-hour meter principles

**TUTORIAL III:**  
Demand meters  
KVAR and KVA meters  
Pulse metering  
Measurement errors  
Standards  
Accuracy and calibration

**TUTORIAL I**  
**Evolutions In Electricity Metering Technology**  
Thursday, October 28, 2004

This session is offered in the traditional Chapter Meeting style, with Dinner and a preceding social hour to facilitate "networking". Following dinner, David Greenacre will present an overview of the evolution of the electric energy meter from the 30's to the present. He will also offer an overview of the meter reading and data retrieval processes, aspects of post processing and some billing aspects. Specific topics to be covered are:

**1. SIGNIFICANT TECHNOLOGY ADVANCEMENTS OF THE WATT-HOUR METER**

BALL & JEWEL BEARING SUSPENSION SYSTEM  
SURGE PROOF MAGNETS  
MAGNETIC BEARINGS  
COMBINATION METERS  
SOLID-STATE METERS

**2. BASIC WATT-HOUR METER CONSTRUCTION**

ELECTRO-MECHANICAL  
SOLID-STATE  
SELF-CONTAINED  
TRANSFORMER RATED  
DEMAND (KW, KVAR & KQ)

**3. PERFORMANCE CHARACTERISTICS**

LIFE EXPECTANCY  
TYPICAL IN SERVICE PERIOD  
OPERATING RANGES  
DESIGN FAILURE RATES  
TYPICAL FAILURE MODES

**4. METER READING**

METER BOOK  
ELECTRONIC METER BOOK  
PROBING

**5. INTERVAL DATA COLLECTION (PULSE METERING)**

MAGNETIC TAPES  
SOLID-STATE RECORDERS  
MV-90  
RECORDERS UNDER GLASS  
LOAD PROFILE  
SETTLEMENT  
MV-WEB

**6. ENHANCED FUNCTIONS**

SITE DIAGNOSTICS  
POWER QUALITY  
ADVANCED METER OPTIONS

**7. METERS & INSTRUMENTATION**

SCADA  
INTERNET  
VOLTS, AMPS & ETC.

**8. REGULATORY REQUIREMENTS**

MPUC CHAPTER 320  
ISO-NE  
ANSI/IEEE REQUIREMENTS

## **Project Re-Seed, Maine Seeks Science Classroom Volunteers**

PROJECT RE-SEED, MAINE, a program that provides volunteer assistants for science teachers in Maine middle schools, can now expand, thanks to a grant from the IEEE life member foundation.

The Maine program is a spin-off from PROJECT RE-SEED, founded at Northeastern University in Boston 12 years ago. The program has been active in southern Maine schools for the last 8 years. Now, with the help of the IEEE grant, it can expand the program in mid coast and southern Maine.

PROJECT RE-SEED, MAINE is now seeking retired engineers or scientists, or those with free time during the school day. Classroom volunteers should have a science or engineering degree and considerable experience in the practice of that specialty. After a brief training course the project will match each volunteer with a school or teacher in a convenient geographical area.

The volunteers offer a variety of benefits to the classroom. Their advanced training often gives them insight into the scientific material that more broadly trained teachers may not possess. The volunteers can provide classroom demonstrations or experiments otherwise difficult or impossible to carry out, and they can supplement the knowledge of the teachers who may have limited training in the physical sciences. As mature professionals they may also reinforce the claim that mastery of the scientific material can lead to gainful employment.

Nationally, 75% of 7th and 8th grade students are taught physical science by teachers who do not have a major or a minor in the subject (The National Science Board, Science and Engineering Indicators, 2000). Volunteers in PROJECT RE-SEED, MAINE possess talent and expertise that complement those of science teachers. As they work with host teachers to implement the science curriculum, the volunteers' wealth of knowledge and experience allows them to make science interesting and relevant to everyday situations. Wherever implemented, the program has been universally acclaimed by students, science teachers and school officials.

For more information, prospective volunteer should call Miriam Remar (the PROJECT RE-

SEED, MAINE volunteer coordinator) at (207)772-8007, or e-mail Frank Broadbent at [broad@suscom-maine.net](mailto:broad@suscom-maine.net).

## **IEEE Annual Election Underway. Please Take the Time to Vote!**

*Editor's note: The following announcement was e-mailed to all active IEEE members. I am repeating it here to serve as a reminder to all members to exercise your right to vote!*

This is the time of year to choose whom you would like to see in leadership positions at the IEEE. The opportunity to vote in the annual IEEE election is a privilege of your membership. We hope that you will take the time to complete and submit your ballot.

Election ballots have been mailed to all IEEE members who are eligible to vote. To help you make an informed decision this voting season, please visit our election Web site at:

<http://www.ieee.org/corporate/elections/candidates.xml>

There you can link to the candidates' statements and their background information.

In 2004, members are also being asked to vote on a Constitutional Amendment containing revisions to the wording of the IEEE Constitution. For detailed information on these changes, please visit the Proposed Constitutional Amendment Revisions Web site at:

<http://www.ieee.org/about/whatis/bylaws/changesgrid.xml>

Additionally, this year, for the first time, members may choose one of two ways to cast their ballots.

-- You may transmit your ballot electronically. Information on this procedure is provided in the election ballot materials that have been mailed to you. Or

-- You may choose to mail your ballot. To ensure that your paper ballot is counted, you must sign and return it in the postage-paid envelope provided in the ballot package. Mail early to allow for delivery by the deadline date.

All ballots must be received by 1 November 2004 by 12 o'clock noon, Central Time USA (18:00 GMT).

Please take this opportunity to make your voice heard as an IEEE member. Thank you.

# 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!!

**Send articles to:**

George Elliott, Editor  
106 Balsam Dr.  
Bangor, ME 04401  
207-990-2350  
gelliott@eece.maine.edu

**Circulation issues? See:**

Stan Koski, Circulation  
Central Maine Power  
Edison Drive  
Augusta, ME 04336  
207-626-9870  
stanley.koski@cmpco.com



Nonprofit Org.  
U.S. Postage  
PAID  
Augusta, ME  
Permit No. 0024

Maine Section, IEEE  
64 Edison Drive  
Augusta, ME 04330  
www.ieee.org/maine

**The Beacon**