the Beacon

Think Spring!

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

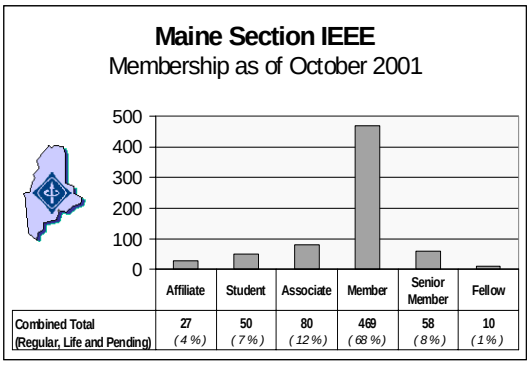
March '02
Volume 11
Number 4

2002 IEEE Senior Membership Drive

by Dave Potts, Section Chair

The IEEE has been making a concerted effort over the past few years to encourage eligible members to upgrade to Senior Member status. The *Nominate a Senior Member Initiative* has been extended through November 8, 2002. This program encourages IEEE Sections and Societies to identify and nominate qualified Members for Senior Member upgrade by offering an incentive of $10 to be awarded to the nominating entity for each approved upgrade. The application process itself is simplified somewhat when a candidate is nominated, as the nomination itself can count as one of the three required references. Additionally, the newly elevated Senior Member will receive an attractive fine wood and bronze engraved Senior Member plaque and a coupon worth up to $25 which can be used to join one new IEEE Society prior to December 31, 2002.

As shown in the figure below, the Maine Section has fewer than 10% of its members at Senior or higher grades.



Five members successfully upgraded to Senior status in 2001, two of which had been nominated by Societies (one Electron Devices and one Broadcast Technologies). Region 1 as a whole, which consists of all of New England, New York and part of New Jersey, added 176 new Senior Members (12% short of its 2001 goal of 199). The Region 1 2002 Senior Membership elevation goal 229. I am confident that Maine can contribute more than its share in meeting that goal.

Requirements for Senior Membership elevation are:

1) 10 Years in the profession (**not** 10 years of IEEE membership) with allowances given for educational experience:
- 3 years for BS degree
- 4 years for MS degree
- 5 years for Ph.D. degree

2) Show 5 years of significant performance, which may include:

- Substantial engineering responsibility or achievement
- Publication of engineering or scientific papers, books or inventions
- Technical direction or management of important scientific or engineering work with evidence of accomplishment
- Recognized contributions to the welfare of the scientific or engineering profession
- Development or furtherance of important scientific or engineering courses in a program on the "Reference List of Educational Programs"
- Contributions equivalent to those above in areas such as technical editing, patent prosecution or patent law, provided these contributions serve to advance progress substantially in IEEE-designated fields.

3) Three references IEEE Senior Members or Fellows (two with a qualifying nomination)

Based on their year of original IEEE admission, it appears that the majority of our regular members should easily meet the first criterion. As shown in the figure below, well over half of our 469 regular members first joined IEEE 10 or more years ago. Keeping in mind that the requirement is for 10 years in the profession and not 10 years in IEEE, many of those more recent members may also meet this requirement.

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2002 IEEE Senior Membership Drive

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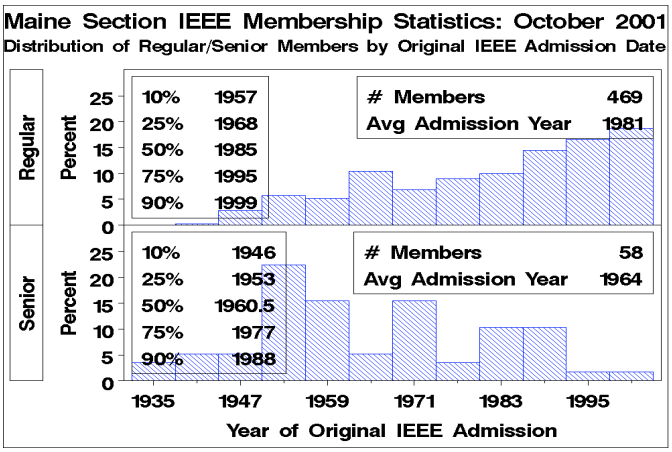


The second criterion of 5 years *of significant contribution* may sound daunting but can be satisfied by simply demonstrating a career development path with promotions to greater responsibility. Examples of various acceptable cases are given in the online Guide to Applying for Senior Member Grade, see: *www.ieee.org/organizations/rab/md/smguide.html*

The third criterion is where we can really help out. By being officially nominated by the Maine Section, only two additional references are required and we can assist in obtaining those. If you are a regular member and feel you may be qualified for Senior Member elevation, please contact me at 775-4633 or via email (preferred) at potts@ieee.org. I will forward you a Senior Membership upgrade application with a nomination from the Maine Section. If necessary, I can also provide you with a list of Senior Members/Fellows who may be able to provide additional references for you.

In future Beacons, we will publish lists of our newly elevated Senior Members. Look for my name, as I am applying. I hope to see your name too.

IEEE Board of Directors Re-nominates Art Winston for the Position of IEEE president Elect for 2003

Dr. Arthur Winston, a Boston Section member who has a long and distinguished record of outstanding service to IEEE members, has been nominated to be a candidate for the position of IEEE president Elect for 2003. The Boston Section is in the IEEE Region 1which includes the New England states. The Maine Section Executive Committee has previously supported Art's election to IEEE President Elect because they feel he would most familiar with the needs of the New England region. You can learn more about Art at his website: *http://www.arthurwinston.com/*

CS/EDS Chapter Meeting:

An Introduction to Modeling and Analyzing Complex Product Development Processes using the Design Structure Matrix (DSM) Method

Dr. Ali Yassine, MIT Center for Technology, Policy and Industrial Development

May 15, 2002

The design and development of complex engineering products require the efforts and collaboration of hundreds of participants from diverse backgrounds resulting in complex relationships among both people and tasks. Many of the traditional project management tools (PERT, Gantt and CPM methods) do not address problems stemming from this complexity. While these tools allow the modeling of sequential and parallel processes, they fail to address interdependency (feedback and iteration), which is common in complex product development (PD) projects. To address this issue, a matrix-based tool called the Design Structure Matrix (DSM) has evolved. The DSM method is an information exchange model that allows the representation of complex task (or team) relationships in order to determine a sensible sequence (or grouping) for the tasks (or teams) being modeled. This presentation will cover how the basic method works and how you can use the DSM to improve the planning, execution, and management of complex Product Development projects. For further information see:
MIT DSM Site *http://web.mit.edu/dsm/index.html*

Speaker: Dr. Ali Yassine is a research scientist at MIT Center for Technology, Policy and Industrial Development (CTPID). Previously, he was a project manager at Chrysler Corporation, International Operations group. At MIT, his research involves managing the development process of complex engineering products, design process modeling, and IT-enabled concurrent engineering methodologies. His publications appeared in Management Science, IEEE Transactions on Engineering Management, International Journal of Production research, and several other international journals. He has also consulted on numerous occasions for the automotive (Ford Motor Company) and telecommunications (Global One) industries in the areas of decision analysis and produce development management. Dr. Yasssine received the B.E. degree in Mechanical Engineering in 1988 from the American University of Beirut. He received the M.S. and Ph.D. degrees in 1989 and 1994 in Industrial and Manufacturing Engineering from Wayne State University in Detroit, Michigan. He is a member of INFORMSL, ASME, and PDMA.

Location and Registration: This talk will held at Fairchild Semiconductor's Running Hill Road facility in South Portland. Watch upcoming Beacon's or the Section website (*www.ieee.org/maine*) for further details in registration and dinner information.

PES/IAS Chapter Plans March Tour of GE Bangor Plant

Jim Patton, Chairman of the Maine Section PES/IAS Chapter, is pleased to announce a tour of the GE Power Systems plant scheduled for Thursday, March 28. The schedule for the meeting follows:

3:00 - 5:00 PM	Power Systems Plant Tour
5:30 - 6:00 PM	Social time at Millers Restaurant 427 Main St., Bangor
6:00 - 6:45 PM	Dinner ($18.00)
6:45 - 7:45 PM	Speaker

The speaker will be either Andy Cox, Plant Manager, GE Powe Systems or Dr. Bruce Segee, Associate Professor of Electrical and Computrer Engineering, University of Maine. Andy will talk about GE renovations and factory expansion of the Bangor plant, and Bruce will discribe a tool usage monitoring system taht keeps track of tooling cost and the impact of several important variables on tool wer/cost. At this time, it is anticipated that Andy Cox will be the evening speaker.

Registration and directions: Contact Jim Patton at *pattton@eece.maine.edu* to register for this meeting and to get detailed direction and parking information**.**

Electronic Beacon Delivery and Personal E-mail Aliases

Maine Section members are encouraged to subscribe only to the electronic version of the *Beacon.* Each subscriber will receive an e-mail notification whenever the latest issue of the *Beacon* is posted online. Electronic delivery of the *Beacon* ensures timely notification of all Section activities and reduces Section mailing expenses. Instructions for subscribing to e-mail notification for the *Beacon* can be found on the Section website: **www.ieee.org/maine**

It is very important that subscribers keep the Section informed of their current e-mail address. This process can be greatly simplified if a member obtains an IEEE personal e-mail alias. With a personal e-mail alias, a member only has to notify the IEEE whenever their e-mail address changes. Messages addressed to the alias@ieee.org will automatically be forwarded to the real Internet e-mail address.

The IEEE address for obtaining a personal e-mail alias is:
http://eleccomm.ieee.org/personal-aliases.shtml

Continuing Education

by Brenton Hill, Education Chair

When I matriculated at college in 1967, I was fortunate to have courses in which I used the most powerful commercially available computer of the day. It was an IBM 370. I wrote code line by line, punched the code on Hollerith (IBM) cards, then submitted the batch decks to the computer operators and waited for a printout up to several hours later, usually with mystery error messages. If everything worked I would get a printout with a table of numbers. Except for the intellectual discipline involved and the mystery messages, that process bears little resemblance to the computer application work I do now. The technical world has changed day by day and I have had to work to keep up. Continuing education , both formal and informal, has been important to my career. I have also enrolled in the Maine Professional Engineer voluntary Continuing Education Program. (see http://professionals.maineusa.com/engineers/SPRINGNE_OLD2.html) If you are thinking about keeping your skills current, a good first step is to look at some nearby graduate programs. Here are a few quick links to the typical EE paths of electrical, computer science and business graduate degrees for your perusal. If you are reading the electronic version of the *Beacon* a few clicks will take you on an interesting tour.

Electrical Engineering/CS	
UM	www.eece.maine.edu/graduate/index.html www.umcs.maine.edu/grad.html
USM	www.usm.maine.edu/~sas/grad.htm
UNH	www.gradschool.unh.edu/home/programs/ee.htm www.gradschool.unh.edu/home/programs/cs.htm

Business	
UM	www.umaine.edu/business/grad.html
USM	www.usm.maine.edu/sb/degreeframe.htm
UNH	www.gradschool.unh.edu/home/programs/admn.htm
Husson	www.husson.edu/academics/business/gradindex.html

PES/IAS Chapter Meeting:

Mead-Rumford Plant Tour and Historical Society speaker

May 9, 2002

The Maine PES/IAS Chapter is pleased to announce a meeting at the Mead-Rumford paper plant on May 9, 2002. This rescheduled meeting will consist of an afternoon plant tour of the Mead-Rumford facility, with dinner and an evening talk by speaker Bill Weston, a member of the Rumford Historical Society and a retired maintenance manager and engineer from the Rumford-Mead Mill. Bill will talk on the founding of the town of Rumford and the mill. This should be a talk that would interest both IEEE members and their spouses.

Schedule:

1:00 PM	Welcome and Tour – Mead Administration Building
5:00 PM	Conclude Tour
5:30 PM	Social Time – Madison Motel & Restaurant
6:00 PM	Dinner
7:00 PM	Program - Speaker Bill Weston

Directions:

From the North (Bangor Area): Either take Rt. 2 all the way to Rumford (~108 miles) or travel to Augusta and follow the directions below from Central Maine.

From Central Maine (Augusta Area): From I-95 take Exit 31 in Augusta heading West on Rt. 27 toward Belgrade and Farmington, then take Rt. 2 at Farmington to Rumford. We will meet in the Mead-Rumford Administration Building on Main Street.

From the South (Portland/Lewiston Area): From the Maine Turnpike take Exit 13 in Lewiston heading West on Lisbon St. (Rt. 196) toward downtown Lewiston, turn left onto Rt. 202 and cross the James B. Longley Memorial Bridge, look for signs North on Rt. 4 toward Turner/Livermore, and hang a left onto Rt. 108 at Livermore and continue to Rumford. We will meet in the Mead-Rumford Administration Building on Main Street.

Dinner Details:

Dinner will be held at the Madison Motel on Rt. 2 about 5 miles West of Rumford at 6:00 PM. You will have your choice of chicken, beef or seafood. Registration will be $20 ($10 for students) to cover the cost of the meal.

Registration:

Reservations should be made by contacting Curt Beveridge: Tel. (207)623-3521, ext. 2118 or by E-mail to curtis.beveridge@cmpco.com. Your support of this program by your attendance will promote this type of meeting in the future.

The PES/IAS Chapter of the Maine Section IEEE Presents:

ATP TUTORIAL

March 18 and 19

Scope: ATP (Alternative Electromagnetic Transients Program) , a version of the Electromagnetic Transients Program (EMTP), is the widely used software for digital simulation of power system transients. The recent release of ATPDraw, a graphical preprocessor to ATP has made ATP much easier to learn and apply. This ATP Tutorial will present the latest versions of ATPDraw and the Analyzer program (upgrades from the December 2000 tutorial) features .The tutorial is intended for Protection Engineers, Planning Engineers, Consulting Engineers, Educators and all power personnel who are curious about the transient behavior of power systems. The format of the tutorial is presentation style but attendees are invited to bring their laptops.

This Tutorial complements the Introduction to ATP offered by the Maine PES/IAS Chapter in December 2000. As a convenience to new users, an optional, project specific, 3- hour introduction session will be offered on Monday afternoon, in addition to an evening informal Q&A session where members can ask custom questions or share useful experiences. The main part of this tutorial is the 8-hour Tuesday session during which specific system models will be presented (see the details on the schedule).

Instructor: Jules Esztergalyos, former Chief System Protection Engineer, consultant since 1999, is a nationally and internationally recognized expert in Power System Stability, Control and Protection. Among the many projects in Jules 38 career in Protection and Control, his development of BPA's Digital Model Power System from 1987 to 1997 makes him eminently qualified to present this tutorial. He has authored many papers in EHV control and protection.

Handout Materials: The students will receive a CD with the ATP program suite and pertinent course material.

Required Tools: Students are encouraged to bring a laptop equipped with a CD reader.

Times and Location: This tutorial will be given at the CMP General Office, Edison Drive, Augusta, ME. The schedule for Monday, March 18, is 1-4 PM and 6:30-8:30 PM, and for Tuesday, March 19, it is 8 AM to 5 PM. A detailed schedule and contents will be posted on the Maine Section website (*www.ieee.org/maine*) or can be requested from Paul Lerley. Detailed driving directions can be requested from Paul Lerley.

Lodging and Meals: Refreshments will be provided. A list of recommended hotels will be provided at registration.

Cost:

$150 per attendee for both sessions

$100 per attendee for Tuesday session only

Cost includes Tuesday lunch and handout materials

Registration: Contact Paul Lerley paul.lerley@cmpco.com
V: 207-623-3521, Ext 3820 F: 207-626-9503

Come See the Dedication of an IEEE Milestone in Maine

by Brian Conroy, Jr. Past Chair

That's right! Right here in the good old state of Maine there will be a dedication of a milestone in electrical engineering. On July 11, 1962, the first transatlantic transmission of a television signal occurred. The transmission was sent from a Radome in Andover, Maine and received by a twin station in Pleumeur-Bodou, France via the Telstar satellite. The success of the Telstar and earth stations, the first built for active satellite communications, illustrated the potential of a future worldwide satellite system to provide communications between continents.

Come join us for the 50th anniversary of this historic engineering event and the dedication of an IEEE milestone plaque. The details of the meeting are still being developed, but here are some of the events being planned:

- The dedication of this engineering milestone with a plaque on the town common;
- a slide show and film footage from the first broadcast;
- a telecommunications museum with Telstar memorabilia;
- talks and conversations with engineers that took part in this engineering first;
- a live teleconference between Andover and Pleumeur-Bodou,- the original sites involved with Telstar; and camaraderie and nostalgia enjoyed by everyone!

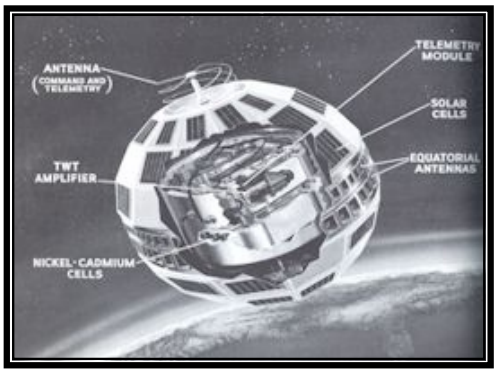
This event will be held in Andover in July. The time and meeting place will be announced in a later *Beacon*, but we wanted you to know about this exciting event early. We're even hoping to have the event hosted by a famous news anchor who reported on the Telstar event!

The Pleumeur-Bodou Site

Prior to Telstar, telephone cables laid between France and the United States in 1956, provided an extremely limited capacity of only 36 channels. The transmission of televised programming was non-existent. Programs were recorded manually on a magnetic tape, and then dispatched by airplane courier to its destination studio, where is would be "replayed" in order to disseminate its contents to spectators.

In April 1961, a multi-national agreements was signed between the American Telephone and Telegraph Company (AT&T), Bell Telephone Laboratories (Bell Labs), NASA, the British Post Office, and the French National PPT (Post Office.) This agreement established a joint collaboration for the project development of two active, mobile telecommunications satellites, "Telstar" and "Relay."

The first Radome was only temporary, and was installed in order to house the construction site for the antenna. Both this temporary shelter and the final Radome measured 64 meters in diameter. The final Radome, installed in France in the summer of 1962, is now a museum. It is made of Hypalon coated Dacron and weighs over 30 tons. Telstar I was launched from Cape Canaveral (now the Kennedy Space Center) on July 10, 1962.



The Telstar Satellite

Telstar I was placed in an elliptical orbit (completed once every 2 hours and 37 minutes), rotating at a 45 degree angle above the Earth's equator. The maximum transmission time between Europe and the United States was 20 minutes per pass. On July 11, 1962 the Telstar Satellite transmission was received in Pleumeur-Bodou, enabling the world's first satellite transmission of a short television program from the United States.

The Old Andover Site

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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