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THE JUNE 2008 IEEE NEW HAMPSHIRE SECTION NEWSLETTER

http://ewh.ieee.org/r1/new_hampshire/newsletters.html

Chairman's Thoughts

By Jim Anderson

james-w-anderson@ieee.org



Help Us Grow!

I am happy to report that Don Sherwood has volunteered to be our Publicity Committee Chair in addition to his many other positions.

We have a new opportunity to grow this month. The Region 1 Industry Liaison, Ashutosh Dutta, has contacted each section and requested us to recruit a section Industry Liaison to build a closer relationship between the section and the companies that employ people in IEEE's fields of interest.

Ashutosh gave a presentation at the Winter BoG meeting which can be found at: <http://www.ewh.ieee.org/r1/newsletter/20085-IR.ppt>. Slides 4 and 5 of the presentation outline the functions and plans for the region level program. Most of these would scale down to the section level.

Please contact me if you might be interested in helping us in this vital area.

Engineering is Hip!



Ravi Subrahmanyam directed me to an IEEE Spectrum video that shows that computer engineering is hip. The video can be seen at:

<http://www.spectrum.ieee.org/video?id=40>. This brought to mind another video that shows that power engineering is also hip, but of course

it is on a macro scale. This video can be seen at:

http://ewh.ieee.org/r1/new_hampshire/Docs/2008-06-PE.wmv

Report From Canada



Jennifer Nk Ain Kin sent us the following report from Canada. She and her family are getting settled in and she enjoys her new job. She can be contacted at jng@ieee.org.

I attended my first Ottawa Section Ex Com meeting and there is a lot going on here, there are over 15 different chapters and each one has at

least one meeting a month! The Ottawa Section has about 1800 members, similar to NH but over a much smaller area, so in that sense all events are pretty easy to go to. I would say on any given week, there are at least one or two IEEE meetings. I just wish I had more time to go to them, e.g. the Laser Society sounds so cool.

I have to setup the infrastructure for the Senior Membership Committee. In August I am planning a workshop to bring in potential applicants and referrers. A Texas Section held a similar workshop with access to the Internet. The process was done live while all the people were there and they got about 25 applications filled out and sent in that night.

The people helping out with the administration were GOLD and Life members! The GOLD members got the chance to view some impressive resumes and career choices, meet / find mentors and meet some very interesting Life members. And the latter get to impart their wisdom to the younger generations.

Feedback

Contact me if you have any comments about, or suggestions for, the newsletter or the Section.

In This Issue

Chairman's Thoughts



This month I update you on the status of the Help Us Grow campaign, show that Engineering is hip, and share a report from Jennifer Ng Ain Kin in Canada. (Page 1)

Take Me Out to the Ball Game



Don Sherwood reminds us that this year our Summer outing will be a trip to the new Merchant's Auto Stadium for a buffet lunch and a Fisher Cats game on Sunday, July 20th. (Page 4)

From the Vice Chair



Kenric Nelson reports on the section's work to strengthen our chapters and affinity groups and to form new ones to better serve you our members. (Page 4)

2008 Young Engineer Award



Dean Bacon, Awards Committee Chair, announces the call for nominations for the 2008 Outstanding Young Engineer Award for engineers 35 or younger as of January 1, 2008. The nomination deadline is October 8, 2008. (Page 5)

Summer Clothing



Don Sherwood has added some inexpensive items to wear this summer that will keep you cool and look great with the embroidered IEEE NH Section logo. They are just in time for the Fisher Cats game on Sunday, July 20th. (Page 5)

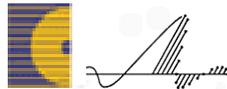
Chapter and Group News

Computer Society



Jim Isaak repeats his call for volunteers in the seacoast, north country, and Hanover areas to help bring programs into those areas. (Page 6)

Joint Com-Sig Society



Ravi Subrahmanyan and Kenric Nelson remind us about a meeting that will be co-sponsored by the MTT-S Chapter. The meeting will be on Thursday, June 26, at 6 PM, at the BAE Nashua Headquarters Auditorium. Jian Yang will speak on "Designing for Yield in Advanced RFICs - Tools for Success".

Please support us by posting the meeting notice at work or school.

http://ewh.ieee.org/r1/new_hampshire/Docs/2008-06-COM.pdf

The Nominating Committee reports the results of the Chapter Elections. (Page 6)

Microwave Theory and Techniques



Tom Perkins reminds us that MTT-S is co-sponsoring the meeting above with the Joint Com-Sig Chapter and that he will attend the MTT-S Chapter Chairs Meeting in Atlanta on June 17.

WIE New Hampshire News



This month WIE Vice Chair Jennifer Schelly shares a brief report about the tour of the Seabrook Nuclear Facility on May 20th. (Page 6)

Other Chapter Contact Information

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Student Activities

Nashua Community College



Barbara Bancroft reports on the Student Branch members who graduated in May, and on student aid available next semester. (Page 7)

Student Branch Officers



Interested in being an IEEE student branch officer for 2008/2009? Nita Patel outlines the requirements and will put you in contact with the right people. (Page 8)

Dartmouth



Catharine M. Lamm, Director of Public Information at Thayer, reports on the 2008 Formula Hybrid International Competition. (Page 8)

Continued

Other Articles

Mentoring Part II



Nita Patel reports on the IEEE online mentoring orientation session on May 22nd. If you did not participate in the session it looks like you missed a good one. (Page 10)

NH Joint Engineering Societies Conference



Tom Perkins reminds us about the conference, "A Symposium on Green Energy Applications" on Th., October 9, 2008. For the meeting notice with all the details see:

http://ewh.ieee.org/r1/new_hampshire/Docs/2008-04-NHJES.pdf

Please support us by posting the meeting notice at work or school.

Innovation



Are you innovative? Of course, the real question is, "HOW are you innovative?" Nita Patel reports on the Innovation session at the IEEE-USA Annual Meeting in Indianapolis recently. (Page 10)

2008 IEEE Humanitarian Workshop



The IEEE Region 1 GOLD Coordinator, Uri Moszkowicz, is organizing a workshop, "Humanitarian projects through the lens of engineering" on Saturday, August 23, 2008. Tentative plans are to hold it at Boston University, One Sherborn Street. (Page 11)

Please support them by posting the meeting notice below at work or school.

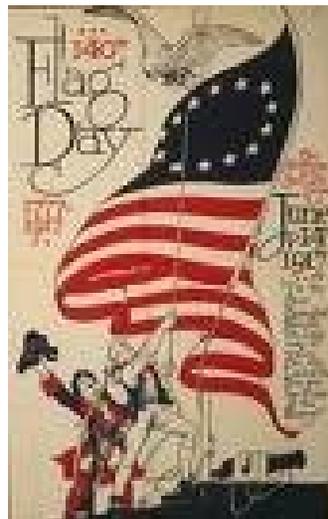
http://ewh.ieee.org/r1/new_hampshire/Docs/2008-06-Hum.pdf

Wireless Communications Certification



IEEE COMMUNICATIONS SOCIETY

IEEE Communications Society Launches New Wireless Communication Engineering Technologies Certification Program. (Page 12)



UNH Durham Energy Conference



Professor Gordon Kraft reminds us about the June 20-21 Energy Conference at Kingsbury Hall. For more information go to:

http://www.ece.unh.edu/energy_conference/energy.pdf

Please support UNH Durham by posting the flier below at work or school.

http://ewh.ieee.org/r1/new_hampshire/Docs/2008-04-UNH.Conf.pdf

Membership Activities



Stuart H. MacPherson reminds us about retirement options and how to become a Senior Member.

(Page 13)

Other Meetings of Interest (Page 13)

WANTED

We need additional Section Photographers, and "How I Became interested in Engineering" articles. (Page 14)

Questions and Answers (Page 15)

Take Me Out to the Ball Game

By Don Sherwood

donsherwood@ieee.org



Make plans to attend this year's summer outing where we will watch the New Hampshire Fisher Cats play the New Britain Rock Cats on **Sunday**, July 20th at the new Merchant's Auto Stadium in Manchester, NH.

The game starts at 1:05 PM, but plan to arrive early to enjoy the amenities of a Dinner at the Den Buffet. Tickets include the game along with the following:

- 90 Minute all-you-can-eat buffet beginning 30 minutes prior to the scheduled game time. Ice Tea and Fruit Punch are included in the buffet.
- The menu includes Steak Tips, Italian Sausages, Hamburgers, Hot Dogs, Tossed Garden Salad, Boston Baked Beans, Cookies, Watermelon, Fruit Punch and Lemonade.
- Make sure to bring your glove because you might catch a home run ball!
- Visit the new Samuel Adams Bar and Grill right next to the den, opening this April!
- PLUS, you can be part of the 100 Club! Take your food over to Section 100 to enjoy the game.



A Fisher Cats Home Game



Dinner at the Den

Tickets prices for members / student members and their immediate family or significant other are just \$10 for adults and \$8 for children (4yrs to 12 yrs), with a maximum family cost of \$50. Ticket prices for non-members are \$27 for adults and \$24 for children. We can only accommodate 150

people so make your reservations early.

A final count to the Fisher Cats is required by Friday, June 20th. Make your reservations by contacting Donna Davis at NHIEEE@aol.com.

Send checks to:

Donna Davis, Administrative Assistant
8 Cohas Drive, Auburn, NH 03032.

From the Vice Chair

By Kenric Nelson

kenric.nelson@ieee.org



The Section is working to strengthen our chapters and affinity groups. Many of you participate in one of our active entities: Computer, Microwave Theory and Techniques, Power Engineering, Women In Engineering, and the new joint Communications and Signal Processing chapter.

Please take a moment to scan the schedule of [upcoming events](#) to find an activity of interest. Your participation helps to keep our local IEEE community vital.

I would like to hear your **suggestions for activities** which would benefit you and your colleagues. Each of our current chapters grew out of the personal interest of a few individuals who wished to develop professionally by volunteering time to develop a community of interest. The Ex Com is currently looking to initiate new chapters and revitalize chapters which have been less active. Volunteering to lead a local chapter is an excellent way to learn more about your field of interest and network with associates in your field.

I'd specify like to hear feedback on the merits of **organizing joint chapters** which serve the interests of a broad group of IEEE society members. While a few societies, such as Computers and Communications have a large local membership base, other societies such as Industrial Applications, Engineering Management, and Consumer Electronics have a small local membership. Two suggestions for developing joint chapters with broader interests are either to affiliate with an IEEE Technology Council or Community; or secondly, to have a joint chapter provide leadership for a broader community.

Nationally the IEEE has formed **Technology Councils and Communities** which address either broad technical issues within IEEE fields of interest or emerging technologies which draw upon a cross-section of IEEE societies. Our **local group for Women in Engineering** is an example where the section has benefited from forming a local chapter focused on a IEEE Technical Community. Three examples of the Technology Councils are: **Electronic Design Automation, Systems, and Technology Management**. If you have particular interest in one of the Technology Councils or Technology Communities, I would appreciate hearing about your interest.

The second approach would be to have an existing local society chapter or a new society chapter develop a broader mission to serve IEEE members in affiliate societies which do not currently have a local chapter. For example, there has been some interest expressed in starting a Laser and Electro-Optics Society. This might have a stronger chance of developing into a successful chapter if it included in its mission serving local members of the Electron Devices Society, Solid State Circuits Society, and the Antennas and Propagation Society. Combined these four

societies, which serve overlapping technical interests, have approximately 150 local members.

Thank you for taking time to learn about our initiatives to develop local chapters. Is there an activity which would be particularly beneficial to you? Is there an IEEE society or community group which you would be interested in volunteering to assist? If so, contact me and I'll include your response in our planning.

2008 Young Engineer Award

By *Dean Bacon*
nhgump@gsinet.net



The IEEE NH Section Outstanding Young Engineer Award was established to recognize engineers 35 years of age or under for outstanding contributions in the leadership of technical society activities, leadership in community and humanitarian activities, and evidence of technical competence through significant engineering achievements.

The award, administered by the NH Section Awards Committee, is presented annually at the IEEE NH Section Annual Meeting. The recipient receives a plaque, and has the privilege of designating a college or university to receive a \$500.00 scholarship to be granted to an undergraduate who is a member of the school's IEEE Student Branch.

To be eligible for the award, an individual must be 35 years of age or under on January 1 of the presentation year (January 1, 2008 for this year's

award), and have been a full member of the IEEE NH Section for at least one year. Nominations can be made by any NH Section member.

Factors to be considered for selection include: local IEEE activities and leadership, professional society activities, evidence of technical competence and achievement, community and humanitarian activities, educational achievements, and professional registration.

The recipient of this award will be recognized at the IEEE NH Section Annual Banquet on November 6, 2008.

Nominations must be emailed to nhgump@gsinet.net no later than Wednesday, October 8, 2008.

Summer Clothing

By *Don Sherwood*
donsherwood@ieee.org



Check out this month's selection of inexpensive items to wear this summer that will keep you cool and look great with the IEEE NH Section logo embroidered in blue or white lettering depending on your choice of colors. They are just in time for the Fisher Cats game

on **Sunday**, July 20th. Go to: http://ewh.ieee.org/r1/new_hampshire/Docs/2008-06-Sum.pdf to see the new men's and women's shirts and ball caps. Send me the Catalog Number, color, and size of your selections and I will order them.

This month's items represent just a small portion of the summer items that are available from the

catalog: www.thecorporatechoice.com. Any item from the catalog can be ordered, colors should be blue or light tones. Prices are significantly discounted from retail outlets. Send me the Catalog Number, color and size of the items that you want, and I'll get back to you with a price.

Chapter and Group News

Computer Society

By *Jim Isaak*

CS2010@JimIsaak.com



Call For Volunteers!!!

The Chapter is seeking to provide more of the technical networking that members in the state will find useful. We could use coordinators / contacts in the sea-coast, north country and

Hanover areas to help us bring programs into those areas. Recommendations for programs are solicited.

We would like to add a few people to a program committee to help build our contacts in the industries in NH and surrounding areas. Let us know what you would like to see, or how you might like to participate! Contact me or Barbara Bancroft at bbancroft@nhctc.edu.

Joint Com-Sig Chapter

Chapter Elections

By *Jim Anderson*

james-w-anderson@ieee.org



There was no interest expressed by any other chapter members to run for election. Therefore, the uncontested slate of candidates published last month is considered as elected by acclamation.

Congratulations to the 2008 officers:

Ravi Subrahmanyam - Co-Chair

Kenric Nelson - Co-Chair

Mike Lerer - Secretary.

Please support the officers as they continue to grow this exciting new chapter.

WIE New Hampshire News

By *Jennifer Schelly*

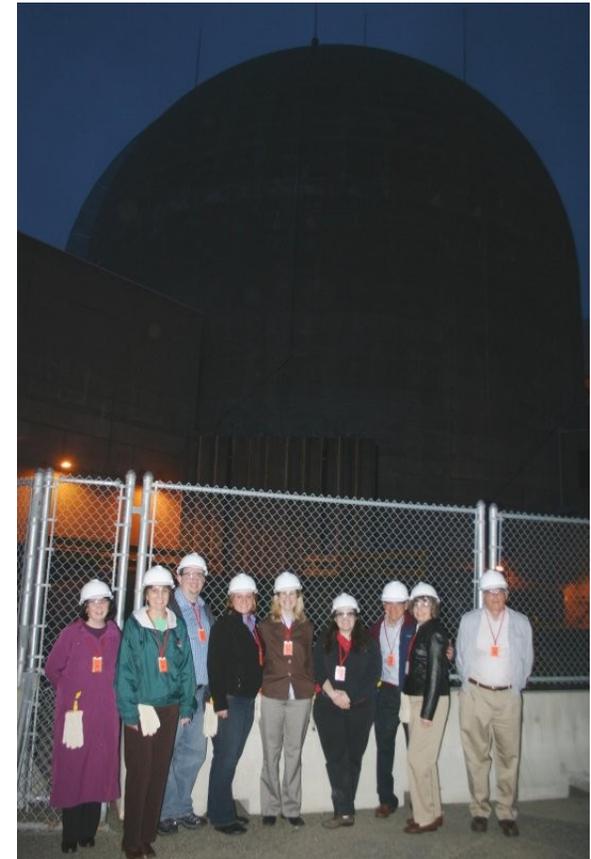
Jennifer.Schelly@baesystems.com



The NH Women in Engineering group toured the Seabrook Power Plant on May 20, 2008 with the Society of Women Engineers of Southern NH. It was a great experience for the whole group and was a very interesting behind the scenes tour of the plant, especially the turbine generator.

Tour members learned that Seabrook produces

enough power to supply a million households at a time! They got to walk next to the generator and even feel how much the turbine vibrated the floor and how the sea water cooling the plant warms.



Outside the Reactor Building

Continued



Inside the Turbine Building

IEEE Women in Engineering (WIE) is dedicated to important issues for Women Engineers. Affinity groups provide the opportunity for members to network at a local level. All members (male and female) are encouraged to join and participate in their local group activities to promote growth within the WIE. For more information go to: <http://www.ieee.org/go/nhwie/>

Other Chapter Contact Information



Engineering in Medicine and Biology Society

By *Wayne Smith*

If you have any suggestions for meeting topics or speakers; or if you would like to become active in

the Chapter please contact me at:
wjsmith@cisunix.unh.edu



Power Electronics Society

By *Kenric Nelson*

The Chapter is dormant at the present time. If you would like to explore reactivating the Chapter please contact me at:
kenric.nelson@ieee.org

Power Engineering Society

By *Paul Krell*



If you have any suggestions for meeting topics or speakers; or if you would like to become active in the Chapter please contact me at:

p.krell@ieee.org

Student Activities

Nashua Community College

By *Barbara Bancroft*

bbancroft@nhctc.edu



The most important event for the month of May was graduation. We are very proud of our graduating class which included our IEEE Student Branch officers Brianna Farrell and Richard McGonagle. Other active student members graduating were Greg Proulx,

Truong Do, William Greenwald, and John Anastasiu.

In the fall Brianna will be continuing her education towards a Bachelor's in Science at Wentworth Institute.

Many of our students are starting new full time

jobs. Those students, who were already working, are getting promotions upon completing their degrees. There are some students who are still looking for jobs. If any of the newsletter readers are aware of openings in the field of computer hardware or software at an Associate in Science degree level, please contact me.

As the semester comes to an end we are recapping our semester and planning for the new semester. Our students volunteer as tutors in specific program areas and in general computer set up and repair area. We are very thankful to our graduates who donated numerous hours of their time. In addition to volunteer work we offer several work study positions. We are looking for students to fill these positions for next semester. You do not have to be a computer expert. We train you on the job. The requirements are:

- 1 - Be a student at NCC,
- 2 - Show financial need,
- 3 - Have an interest in computers.

One other initiative that is offered to all our NCC students in technical majors, but is closely associated with the IEEE Student Branch is the National Science Foundation Scholarship. We are actively recruiting high school students who are interested in STEM disciplines (Science, Technology, Engineering and Mathematics). We are giving away up to \$3125 per year. We have several scholarships available. The requirements of the scholarship are:

- 1 - Be a Nashua Community College Student
- 2 - Have Financial Need
- 3 - Major in one of the following majors
 - Computer Engineering Technology
 - Electronic Engineering Technology
 - Computer Science
 - Telecommunications
 - Liberal Arts - Mathematics Concentration

IEEE members already have technical degrees, but if your child, neighbor's child, or someone you know through church or other organizations is considering college do spread the news. This is a great opportunity. It is likely that recipients of this scholarship would become IEEE members through our IEEE Student Branch. We do many collaborative activities that include NSF scholars and the IEEE Student Branch Members. Recruiting more members into our STEM majors will help us grow IEEE membership.

Look for more information about our fall semester activities in the July newsletter.

Student Branch Officers

By *Nita Patel*

nita.patel@ieee.org



Want to gain some leadership experience and spice up your resume? Think about serving as a student branch officer. The NH Section has the following active student branches: (1) Nashua Community College, (2) New Hampshire Technical Institute, (3) University of New Hampshire -

Manchester and (4) UNH Durham. Typically branch officers include Chair / President, Vice Chair / Vice President, Secretary and Treasurer. Each branch also has a branch counselor, usually from the school's engineering faculty, and branch mentor, someone who has recently graduated or can provide input from an outsider's perspective. The duties for branch officers are pretty straightforward. Volunteering for one of these positions will definitely prove to be educational. If you are interested, please contact me with your name, position of interest and school name. I will get

you in touch with the appropriate school counselor and the current Chair / President.

The Chair/President (1) Serves as the Executive Officer of the Branch, (2) Manages the general operations of the Branch, (3) Presides at all meetings of the Branch, (4) Appoints committee chairs, (5) Is involved in "forward planning" for the Branch, (6) Prepares necessary reports for IEEE Headquarters, (7) Arranges for election of new officers and (8) Communicates frequently with other officers.

The Vice Chair/Vice President (1) Chairs the Program or Membership Committee, (2) Organize field trips or special events, (3) Follows up on group activities, and (4) Fills in for the Chair/President as required.

The Secretary (1) Submits to IEEE Student Services the Newly Elected Officer Form, (2) Keeps detailed records of all Branch meetings, (3) Maintains stationery and other IEEE forms and supplies as required, (4) Maintains the Branch Membership Roster, (5) Maintains all Branch correspondence, (6) Posts a calendar of events to keep all members informed of Branch activities, (7) Assists Chair/President to ensure that all Branch activities are conducted in accordance with IEEE Bylaws, and (8) Arranges for the orderly transfer of all Branch records to the incoming Secretary.

The Treasurer (1) Ensures the Branch's finances are in order, (2) Deposits all monies received promptly in the Branch account, (3) Prepares an annual budget and submits it to IEEE Student Services by Nov. 1, (4) Prepares end-of-year Financial Statements, (5) Oversees fundraising efforts in concert with Branch Counselor, (6) Is the co-signing Officer (jointly with the Chair/

President), and (7) Arranges for orderly transfer of all accounts and records to incoming Treasurer.

Dartmouth

2008 Formula Hybrid International Competition: The Results



This May, at the New Hampshire Motor Speedway, 16 teams from around the world gathered to compete in the 2nd annual Formula Hybrid International Competition. Founded and run by Thayer School of Engineering at Dartmouth,

the competition features high-performance hybrid race cars built by teams of undergraduate and graduate engineering students. This year the event enjoyed three days of perfect spring weather and was a huge success.



The Dartmouth Formula Hybrid team.

Day one of the competition consisted of the tech-

nical inspections as well as the design and marketing presentation events. Day two featured the acceleration runs, the autocross competition, and the design finals. And day three held the endurance event followed by the awards ceremony.

Eight teams made it to the endurance event and two of them—McGill University and the Illinois Institute of Technology—completed all 22 kilometers. Embry-Riddle Aeronautical University and the University of Wisconsin - Madison completed 25 or more of their laps.

“A 25% endurance finish rate is respectable for a second year competition,” said Doug Fraser, Research Engineer and Director of the Formula Hybrid Project, “especially one involving extremely complex vehicles that incorporate hybrid, mechanical, and electrical drive systems.”

Apart from the engineering component, teamwork plays a huge role within and among the teams. Said John Collier, Thayer School’s Myron Tribus Professor of Engineering Innovation and a Dartmouth hybrid team advisor, “We were able to help out some of the other teams as we brought lots of spares and all of the students were eager to assist the other teams. It was great fun.”

The 16 teams in attendance were:

- California Polytechnic State University - San Luis Obispo
- Dartmouth College
- Drexel University
- Embry-Riddle Aeronautical University
- Florida Institute of Technology
- Illinois Institute of Technology (car #6)
- Illinois Institute of Technology (car #12)
- MADI State Technical University (Moscow)
- McGill University (Canada)

- National Chiao Tung University (Taiwan)
- North Carolina State University
- Tufts University
- University of California - Irvine
- University of Vermont
- University of Wisconsin - Madison
- Yale University



The McGill team car races to victory in the endurance event.

And the 2008 winners are:

- 1st place Overall Hybrid: McGill University
- 2nd place Overall Hybrid: Embry-Riddle Aeronautical University
- 3rd place Overall Hybrid: Illinois Institute of Technology
- 1st place Design: Embry-Riddle Aeronautical University
- 1st place Presentation: Dartmouth College
- 1st place Endurance: McGill University
- 1st place Autocross: McGill University

1st place Unlimited Acceleration: Dartmouth College

1st place Electric Only Acceleration: Dartmouth College

- Best Hybrid in Progress: University of Vermont
- Chrysler Award for Best Hybrid System Engineering: University of Vermont
- Thayer School of Engineering Dean’s Award for Innovation: University of Vermont

One of the highlights of the competition for the Dartmouth team was the acceleration event. “When the Dartmouth car did the acceleration run, jaws dropped,” said Charlie Sullivan, Associate Professor of Engineering and another faculty advisor to the Dartmouth team. “When it’s in electric-only mode, it sits on the starting line silently, so it’s a shock to see it go 75 meters in under 5 seconds—the equivalent of 0 to 60 mph in about 4.5 seconds.”

Thayer School modeled its event after the Formula SAE® competition in which Dartmouth students have competed for over 10 years. The main difference in the Formula Hybrid competition is that teams need to consider the additional factor of fuel efficiency in the design and construction of their car. Like Formula SAE®, students must also consider the design, acceleration, handling, and endurance of their vehicle and abide by a long list of rules.

Competition sponsors included the Society of Automotive Engineers (SAE), the Institute of Electrical and Electronics Engineers (IEEE), Plug In America, Toyota, General Motors, and Chrysler.

For more information, contact Thayer School of Engineering at Dartmouth, Hanover, NH 03755, (603) 646-6580, Douglas.Fraser@Dartmouth.edu, Wynne.C.Washburn@dartmouth.edu

OTHER ARTICLES

Mentoring Part II

By Nita Patel

nita.patel@ieee.org



Mentoring is a timeless tradition helping people to develop professionally and personally. Mentors offer valuable wisdom, act as a sounding board, and can help role play difficult conversations. The following is a summary of the information provided during the online IEEE Mentoring

Orientation Program webinar on May 22nd.

Before you seek out a mentor, you should identify your ideal mentor (identify technical skills, personality, background, interests ...). Note that you should strive for diversity when looking for a mentor so that you can get different perspectives for your questions. After defining who you would like, identify what you want to gain from this relationship. Ask yourself what it is that you want to accomplish. Ask yourself if you are ready and open to actually hearing feedback. Ask yourself if you are ready to take action.

Once you know who and what, then you need to announce that you are ready to be a mentee. Do this by either contacting the IEEE Mentoring Program at:

<http://www.ieee.org/web/membership/mentoring/index.html> or by requesting a mentoring relationship with someone you know.

After finding a mentor match, you are ready to establish a mentoring agreement. This may sound very formal but it is necessary to establish a pro-

fessional mentor / mentee relationship. The agreement should identify your objectives, define the length of the mentoring relationship (1 year is a good time span because it takes the first few months just to get to know someone before you can move to the point of open, meaningful exchanges), define the meeting logistics (when, where, how, who will initiate, etc.), define a confidentiality agreement (what can be shared, with whom, etc.) and identify how you will terminate the partnership.

The purpose of a mentor is to not provide answers but help you navigate your own thoughts through structured questions and by sharing other opinions. The primary **Mentor** roles are:

- (1) **Teacher** - to assess career path and help outline a plan to achieve these goals,
- (2) **Guide** - to share industry and organization insight and to help you build alliances,
- (3) **Counselor** - to act as a sounding board and provide a safe communications channel, and
- (4) **Challenger** - to provide developmental feedback and to help you stretch.

The figure in the next column shows a mentoring triangle with each side representing a common objective people hope to gain out of a mentoring relationship. You can focus on a particular leg with a particular mentor or try to balance it.



As you meet with your mentor each time, you should keep a journal that documents, the date of the meeting, the purpose, any significant events since the last meeting, questions discussed, action items, and the date / time for the next meeting. By following these basic guidelines, you can have a solid partnership with a mentor that will help you grow and accomplish your objectives.

Innovation

By Nita Patel

nita.patel@ieee.org



Author William Miller states that there are two important principles that govern the field of innovation.

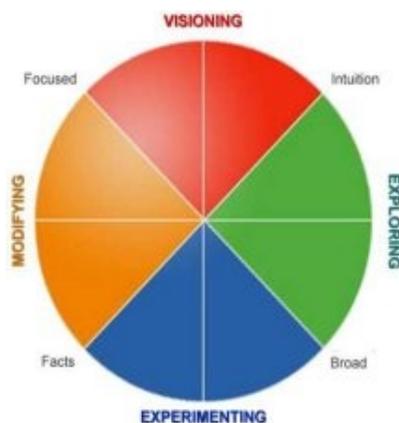
(1) Innovation is an important part of every job. (2) Every person has the capacity to contribute to innovation.

I attended a session on Innovation at the IEEE-USA Annual Meeting in Indianapolis recently. The following are some

thoughts from the presentation by Peggy Hutchinson.

Every person is capable of being innovative. The main question is NOT "Am I innovative?" but "HOW am I innovative?" We each have the potential to be innovative yet we might take different approaches to innovative thinking. We use a mixture of four different approaches, each representing a different way of thinking, not necessarily a different type of person. The four styles of innovative thinking are classified as (1) Visioning, (2) Exploring, (3) Experimenting, and (4) Modifying.

To determine your innovation style, you need to first understand what stimulates your innovative thinking. Are you more facts, details, and analysis oriented OR intuitive? Second, you should understand how you approach the innovation process. Do you tend to be focused, well-planned, and outcome oriented OR do you tend to be broad, perceptive, and learning oriented? Once you have answered these questions, you can use the figure and the descriptions below to identify where you fit into the four styles.



Those with the **Visioning** profile like to imagine an ideal future and let long-term goals be their guide. They envision and idealize. They ask questions such as, "What is a possible long-term solution and what do we truly want to achieve?" This style supports innovation because you can see the big picture, provide long-term direction, and supply bold, far-reaching, imaginative ideas. On the other hand, those with a Visioning profile have to be careful not to resist options that do not fit into the vision and not to be unrealistic about the level of change involved.

Those with the **Exploring** profile like to question assumptions and discover new and novel possibilities without the need for a long-term goal or specific process. They challenge and discover. They ask questions such as, "How can we turn conventional wisdom upside down and what would be radically new and different?" This style supports innovation because you question the accepted way of seeing things and seek the new and novel to discover what is possible. On the other hand, those with an Exploring profile have to be careful to not take risks without understanding the consequences (look before you leap) and to not frequently change perspective and opinions.

Those with the **Experimenting** profile like to test out various combinations of new ideas and solutions and then learn from the results. They combine, test and iterate. They ask questions such as, "What can we combine to put together a new solution or what are the practical ways to make progress?" This style supports innovation because you combine ideas of many people in unique ways and test out ideas to control risk in small stages. On the other hand, those with an Experimenting profile have to be careful to not lose perspective on what really matters by getting caught up in the details and to not over emphasize testing /

research over action.

Those with the **Modifying** profile like to expand and improve on what has already been done. They refine and optimize. They ask questions such as, "What can we do to optimize what we have done or what would simply or improve this?" This style supports innovation because you build on what has already been accomplished and by focusing on short-term, relevant successes. On the other hand, those with a Modifying profile have to be careful to not get tied up with the status-quo and to not fear questioning current assumptions.

To learn more, attend the IEEE-USA Innovation Forum on June 10 - 12, 2008 in Waltham, MA.

The forum will address how the business environment affects innovation and how technical leaders can drive innovation. Find out more details at <http://www.innovation-institute.org/events/Boston/>

2008 IEEE Humanitarian Workshop



The IEEE Region 1 GOLD Coordinator, Uri Moszkowicz uim@ieee.org, is organizing a workshop, "Humanitarian projects through the lens of engineering" on Saturday, August 23, 2008. Tentative plans are to hold it at Boston University, One Sherborn Street.

Jointly held with IEEE GOLD, EWB-USA, & CITRIS

Many of us are fortunate to live in a relatively secure environment where we can pursue education and dreams. Far away from most of us in Africa, or even close to home like New Orleans in the United States or Sichuan in China, where catas-

trophes struck recently, there are tremendous needs for humanitarian aids. Engineers can play an active role in bringing hope, relieving pain, restoring livelihood, and accelerating economic progress in these areas through appropriate use of technology.

IEEE's young professional entity (GOLD) is organizing its first humanitarian workshop in Boston together with Engineers Without Borders (EWB-USA) and the Center for Information Technology Research in the Interest of Society (CITRIS). The purpose of the workshop is to share with students and professionals about successful and ongoing projects that had used technology to practically enhance humanity. We warmly welcome all who have desires to use their engineering skills to serve the community to join us in this 1-day workshop.

About the Organizers

A non-profit organization, IEEE (<http://www.ieee.org>), is the world's leading professional association for the advancement of technology, is a non-profit organization. Its Graduates Of the Last Decade (GOLD) is a program developed to help student members transition to young professionals. GOLD offers programs and services to graduating students, recent graduates and young engineers. The IEEE Committee on Earth Observation (ICEO) (<http://www.ieee-earth.org/>) is also participating.

EWB-USA (<http://www.ewb-usa.org>) is a non-profit humanitarian organization established to partner with developing communities worldwide in order to improve their quality of life. This partnership involves the implementation of sustainable engineering projects, while involving and

training internationally responsible engineers and engineering students.

CITRIS (<http://www.citris-uc.org>) creates information technology solutions for many of our most pressing social, environmental and health care problems.

Schedule:

9:00am - 9:30am Registration
9:30am - 9:45am Welcome
9:45am - 10:15am Opening speech
10:15am - 10:45am ICEO
10:45am - 12:00pm EWB
12:00pm - 12:30pm CITRIS
12:30pm - 1:45pm Lunch
1:45pm - 2:00pm Hands-on session introduction
2:00pm - 3:45pm Hands-on session
3:45pm - 4:15pm Hands-on session judging
4:15pm - 4:45pm EWB actual solutions. Prize for best group.
4:45pm - 5:00pm Misc

Please support them by posting the meeting notice below at work or school.

http://ewh.ieee.org/r1/new_hampshire/Docs/2008-06-Hum.pdf

Wireless Communications Certification



IEEE Communications Society Launches New Wireless Communication Engineering Technologies Certification Program.

The IEEE Com Soc has launched a new program to certify the practical knowledge and skills of wireless communications professionals.

The IEEE Wireless Communication Engineering

Technologies (IEEE WCET) Certification Program has been specifically designed by IEEE Com Soc to address the worldwide wireless industry's growing need for communications professionals with practical problem-solving skills in real-world situations. With this certification, professionals will be able to clearly demonstrate their knowledge of wireless communications technologies to employers or change engineering fields as new opportunities arise in the wireless industry.

To qualify for the IEEE WCET designation, candidates with a bachelor's degree from an accredited institution and at least three years of wireless engineering experience must pass a detailed comprehensive examination developed by more than 100 industry experts and experienced wireless practitioners. Administered on computer for the fee of \$500, the first testing period is scheduled for 22 September 2008 - 10 October 2008 at more than 500 testing sites located in 75 countries with the next testing period slated for March 2009. Online applications will be accepted beginning in mid-June.

The exam itself will consist of 150 multiple-choice questions encompassing the wireless areas of RF engineering, propagation and antennas; access technologies; network and service architecture; network management and security; facilities infrastructure; agreements, standards, policies and regulations; and fundamental knowledge.

In the coming months, IEEE Com Soc will also launch a set of resources designed specifically to help participants prepare for the examination. Two separate practice exams consisting of 75 different questions will be computer-based and available via the Internet for a price of \$75 for one exam and \$125 for both. A Wireless Engineer-

ing Body of Knowledge (WEBOK) source book that provides detailed information on all the specialty areas covered by the examination will also be available for purchase.

In addition, a Candidate Handbook for the IEEE WCET certification program containing policies, complete details of the subject areas covered, reference sources, sample questions, application procedures and contact information is currently available free-of-charge through IEEE Com Soc.

For more information on the IEEE Wireless Communication Engineering Technologies Certification Program (IEEE WCET) contact: Jean Niblett, IEEE Communications Society, 3 Park Avenue, New York, NY 10016. Phone: (212) 705-8913. E-mail: j.niblett@comsoc.org or visit www.ieee-wcet.org.

Membership Activities

By Stuart H. MacPherson
stuart.macpherson@ieee.org



Retirement & IEEE

If you are considering retirement, you need not retire from IEEE. You may be qualified as a Life Member. Life Members are IEEE members who are at least 65 years of age and who have been a member

of IEEE long enough that the sum of their years as a member and their age are 100 years or greater. The great benefit of a Life Membership is that your dues and regional assessments are waived every year! You are encouraged to stay as a member and to stay active. If you are about to be qualified as a Life Member, you will be contacted by the end of the year and you become a Life Member automatically on January 1st. Also, if

you have been a Society member for at least five years, Society fees are waived too! Therefore, if you are considering retirement, determine when you will qualify. Keep your membership active and become a Life Member!

Become a Senior Member

Your NH Section continues taking an active role in supporting those who desire and qualify to become a Senior Member. Now is a good time, before summer is in full swing, to seriously consider upgrading. If you already have a resume, the process is simple, straightforward and not time consuming. I have not heard of any issues with the process. Over the past year, there has been a steady stream of Senior elevations and everyone who has applied, has passed the review board. The process is based upon success. Please send me an email with your request!

Remember, the qualifications are straightforward: *"... a candidate shall be an engineer, scientist, educator, technical executive or originator in IEEE-designated fields. The candidate shall have been in professional practice for at least ten years" " and shall have shown significant performance over a period of at least five of those years."*

Note: a PhD is equivalent to five years practice, or an MS to four years, or a BS to three years.

If you meet the above requirements, we can support you in seeking Senior Membership. The process is simple:

- Fill out the application.
- Three references from Senior or Fellow grade members are required.
- If you are nominated by a Section, Society or Affinity Group, only two references are required.
- It is understood that it may be difficult for you

to find references. However, we can help you. Provide us with a recent CV or resume and your application. We can then write a nomination letter from the Section.

- We have gathered a list of Senior and Fellow members who are willing, based on your documents and possibly emails and phone calls, to provide you a reference.

The other members of the committee are: Tom Perkins, Past Section Chair; Jim Anderson, Section Chair; and Duncan Morrill. If you are considering Senior Member elevation, please contact us at nhieee-membership@ieee.org

Other Meetings of Interest

Please let me know if you are aware of other meetings that might be of interest to our members. We each belong to different societies, read different publications, work in different industries, and surf different web sites. So if you see any interesting meetings or conferences please send me the notice or the URL.

To keep the list manageable I have limited it to meetings in North America during the next six months.

Jim Anderson james-w-anderson@ieee.org

June 8 - 12, 2008

International Symposium on Electrical Insulation
Renaissance Vancouver Hotel Harbourside,
Vancouver, BC, Canada
<http://ewh.ieee.org/conf/isei/index.html>

June 10 - 12, 2008

IEEE USA Innovation Forum
Westin Hotel, Waltham
<http://www.innovation-institute.org/events/Boston/default.asp>

June 15 - 20, 2008

International Microwave Symposium
Atlanta, GA
www.ims2008.org

June 20 - 21, 2008

UNH Energy Conf.
Durham, NH
http://www.ece.unh.edu/energy_conference/

June 29 - July 2, 2008

2nd International Symposium on Bio- and Medical Informatics and Cybernetics: BMIC '08
Rosen Centre Hotel, Orlando, Florida
<http://sciiis.org/BMIC2008>

June 29 - July 2, 2008

6th International Conf. on Politics and Information Systems, Technologies and Applications
Rosen Centre Hotel, Orlando, Florida
<http://www.socioinfocyper.org/pista2008>

June 29 - July 2, 2008

2nd International Conference on Knowledge Generation, Communication and Management: KGCM 2008
Rosen Centre Hotel, Orlando, Florida
<http://www.sciiis.org/KGCM2008>

July 13 - 16, 2008

IEEE International Professional Communication Conf.
Concordia University, Montréal, Canada
email IPCC2008@gmail.com

July 20 - 24, 2008

PES General Meeting
David L. Lawrence Convention Center and Westin Convention Center Hotel Pittsburgh, PA
<http://ewh.ieee.org/cmte/PESGM08/>

August 7 - 8, 2008

IEEE Wireless Hive Network Conf. (IEEE WHNC 2008)
Courtyard by Marriott in Austin, Texas
<http://www.ieee-whnc.org/index.html>

September 4 - 5, 2008

Battery Power 2008
New Orleans, LA
http://www.batterypoweronline.com/bp08_reg.php

September 28 - 30, 2008

North American Power Symposium (NAPS)
University of Calgary, Calgary, Alberta, Canada
<http://www.naps2008.net/>

October 14 - 16, 2008

IEEE USA Innovation Forum
TBD Hotel, Denver, CO

October 14 - 15, 2008

57th NEQC Conf. WORLD CLASS TRANSFORMATION: EXCELLENCE, ECONOMICS, EDUCATION Seminars October 13, 16 and 17.
Best Western Royal Plaza, Marlborough MA.
<http://www.neqc.org/conference/57/>

October 26 - 29, 2008

IEEE Conf. on Electrical Insulation and Dielectric Phenomena.
Delta Hotel, Québec City, QC, Canada
<http://ewh.ieee.org/soc/dei/ceidp/ceidp2008.htm>

November 5 - 6, 2008

Energy Efficiency & Sustainability Symposium
Atlanta Marriott Marquis Hotel
http://www.greentechnewsmag.com/energy08_index.php

November 10 - 12, 2008

IEEE International Conf. on Technologies for Practical Robot Applications - TePRA 2008
Holiday Inn Select Hotel, Woburn, MA
<http://www.ieeeroobot-tepra.org/>

November 30 - December 4, 2008

IEEE Global Communications Conf., GLOBECOM 2008
Hilton New Orleans Riverside, LA
<http://www.comsoc.org/confs/globecom/2008/>

WANTED

Wanted - Additional Photographers

Ravi Subrahmanyam has volunteered to be our photographer but his schedule will not allow him to cover all our events. Therefore, we need one or more additional volunteers to take photographs at our Section events and meetings. If you are interested to help out, please email the Editor, Jim Anderson, at james-w-anderson@ieee.org

Wanted - Articles on “How I became interested in engineering.”

Was it because you were always interested in taking things apart and putting them back together (with “extra pieces”)? Was it by chance? Was it because you come from generations of engineers and this was your destiny? What was it? Please send me, Jim Anderson, (james-w-anderson@ieee.org) your story on how you became interested in Engineering and chose this profession. Every month, we will try to feature an article in the newsletter.

Questions and Answers

Q: Who are the NH Executive Committee members?

A: The list of all the members and their contact information is found on the section website at http://www.ewh.ieee.org/r1/new_hampshire/Officers.html

Q: Who do I contact about suggestions for the newsletter?

A: The Editor, Jim Anderson, can be reached at james-w-anderson@ieee.org



Q: How can I be removed from the mailing list or update my email address for section news?

A: Send email to the NH Section Administrative Assistant, Donna Davis, at NHIEEE@aol.com

Q: How do I start a new society chapter?

A: Please refer to this site for details on eligibility and requirements: <http://www.ieee.org/portal/pages/tab/cha/newchap.html>

Q: Why doesn't the URL http://www.ieee.org/nh_section work?

A: The URL is case sensitive and you must use http://www.ieee.org/NH_Section.



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