



Wavelengths



January 2005

Vol. 44, No. 4

Wavelengths is a publication of the Southeastern Michigan chapter of the Institute of Electrical and Electronic Engineers (IEEE).

CONTENTS

- XCom Column: Professional Development
- On Frequency: On The Shoulders of Giants
- Award Nominations Due Jan. 28
- EWeek 2005
- MSU Students Host Soldering Workshop
- Call for Papers: PEDAC
- Join AICHE at Reduced Rates
- Events Calendar
- Executive Committee
- Chapter Info
- Advertising Info

Editor:
Dan Romanchik
734-930-6564
danr@
ieee-sem.org

© copyright
2005, IEEE
Southeastern
Michigan
Chapter

PACE Promotes Professional Development

By Adel Marzougui,
Director of Professional Activities,
Adel_mar@hotmail.com



The Professional Activities Committees for Engineers (PACE) promotes the professional interests of IEEE members and provides a way for members to communicate with one another about their professional needs. As the director of the professional activities for IEEE's Southeastern Michigan section, I would like to take this opportunity to bring to your attention some of the PACE programs that IEEE-USA offers on line.

Employment. Visit <http://www.ieeeusa.org/careers/help/> to get access to information such as:

- Job Listing Service
- Employment Survey
- Resume Writing Skills
- Interviewing Skills
- Networking Skills
- Salary Negotiation Skills
- Salary Calculator

Career Development. Join the Employment & Career Strategies Forum at <https://www.ieeeecommunities.org/ecs> to participate in:

- Discussion Groups
- Useful Job Hunting Resources
- Chat Rooms
- Surveys

Professional Development. You can also benefit from other professional development tools such as:

- On-Line Professional Development Workshops
(<http://www.ieeeusa.org/careers/guidelines/available.html>)
- On-Line Salary Database & Career Management Tool
(<http://www.ieeeusa.org/careers/salary/default.asp>)
- On-Line Career Asset Manager
(<http://www.ieeeusa.org/careers/cam/>)

I hope you can visit the IEEE-USA Careers Website and take advantage of these wonderful tools that are available on-line.

No Surprises in Section Elections

Maurice Snyder reports that there were no surprises in this year's elections. All except one race was uncontested, and in that race--for Chapter III Chair, the incumbent, Robert Desoff was re-elected. For a complete list of officers, go to the Officers Page (<http://www.ieee-sem.org/officers.html>) on the IEEE-SEM website.



CSA INTERNATIONAL

D.L.S. can now combine your

EMC CE Marking, U.S. Safety, and Canada Safety
□□ **all in one place,**
all at one time,
all in one neat package



D.L.S. now offers U.S. and Canadian Safety through CSA's APD Program.

*Click on www.dlsemc.com.
Then call 847-537-6400 today.*



D.L.S. Electronic Systems, Inc.
D.L.S. Conformity Assessment, Inc.

1250 Peterson Drive, Wheeling, IL 60090

On Frequency

On the Shoulders of Giants

By Dan Romanchik, Wavelengths Editor

Sir Isaac Newton is reputed to have said, "If I have seen farther, it is by standing on the shoulders of giants." He was, of course, referring to the philosophers and scientists that preceded him and set the scene for what it was that he was able to do.

As electrical and electronics engineers, we too, stand on the shoulders of giants. We are reminded of some of these giants every day, as many of the basic units of measurement that we use are named after these giants. The unit of electrical current, for example, is named for André-Marie Ampère, a scientist of the early 19th century. Similarly, the volt is named for Alessandro Volta, an Italian scientist, and the ohm for George Simon Ohm, a German physicist.

There are, of course, those who lived closer to our age, on whose shoulders we stand. DeForest and Fleming are two of them. Thomas Alva Edison might also fall into this category. Frederick Terman, a professor at Stanford, is certainly one in my book. Robert Noyce and Jack Kilby are two others that come to mind. We have all benefitted by the work of these "giants."

You might have your own personal giants. Who are they? Why?

And finally, are your shoulders broad enough for others to stand on?



IEEE-SEM Award Nominations Due January 28, 2005

At the IEEE/SEM Spring 2005 Section Conference (April 6, 2005), we will once again honor the outstanding professionalism and hard work of our members. Now, we need your help in identifying the deserving individuals and student branches. We are soliciting nominations for the following awards:

Outstanding Engineer

For demonstrated outstanding service or accomplishment in the electrical, electronic or computer engineering profession. The award recognizes such long-term achievements in business, academia, and private enterprise through patents, publications, development of standards, encouragement of student interest and other professional activities.

Outstanding Section Involvement

For acknowledging a member who has been active in Section activities and has gone beyond the norm in leadership, participation and accomplishments.

Outstanding Chapter Involvement

For a member with outstanding commitment and dedication to one of the IEEE/SEM Technical Society Chapters. This is for special recognition of leadership, enthusiasm and accomplishments in chapter activities and programs.

Outstanding Student Branch Involvement

For a Student Branch, Student Branch member(s), Section member (s) or a Student Branch Advisor in recognition of their leadership

Outstanding Student Branch Involvement

For a Student Branch, Student Branch member(s), Section member (s) or a Student Branch Advisor in recognition of their leadership, participation, support, or accomplishments in operations and programs of a Student Branch(s) and for promoting the engineering profession among students. More than one award may be presented in any year.

Rules for nominations

- All nominees and nominators must be IEEE members or student members in good standing.
- Nominations must be submitted on IEEE/SEM forms.
- Nominations must be received by January 28, 2005.

Please download the forms at <http://www.ieee-sem.org/admin.html#Forms>, complete them by January 28, 2005 and email to Maurice Snyder at mfsnyder@ieee.org.

The IEEE/SEM Awards Committee asks and appreciates our member's help in recognizing their peers. Thank you.

Visit the
IEEE-SEM website

<http://www.ieee-sem.org>

for the latest section news
and events calendar.

EWeek 2005

By Don C. Bramlett, PE
IEEE/SEM Section Advisor



Engineers Week (Eweek) 2005 is February 20-26, 2005. Because of the increasing international involvement in the celebrated week-long event, the official name has been changed from National Engineers Week to "Engineers Week" (EWeek). Since EWeek was founded in 1951 by the National Society of Professional Engineers (NSPE), the purpose or mission of EWeek has been to increase awareness and appreciation of the engineering profession.

The theme of EWeek 2005 is "Engineers: Turning Ideas Into Reality." This theme highlights the fact that engineers are practical problem solvers that use the laws of science to better the existence of mankind. Eweek gives us the opportunity to make people more aware of the contributions of engineers and improve the stature of engineering as a career and profession.

Each year the IEEE/SEM Section encourages IEEE members to get actively involved with EWeek. We also encourage companies employing IEEE members, and universities with IEEE student branches, to sponsor programs including technical presentations, awards dinners, tours and open houses. This year, we want to take this a step further and get these organizations to conduct programs that are open to the general public. For example, we are encouraging IEEE members to visit middle schools and high schools to make "Discover E" (E for Engineering) presentations, assist as mentors and judges in the Michigan Regional Future City Competition, and coordinate exhibits and demonstrations in shopping malls, community centers or science centers.

Many established EWeek programs offer an opportunity for IEEE members to demonstrate their activism. One such program is EWeek's most visible public awareness event, the "Future City Competition." In its twelfth year, teams of middle school students from an expanded twenty-six selected regional and metropolitan areas, including Michigan (any Michigan middle school may enter), design new cities of the future using SimCity 2000 software. Aided by the counsel of a teacher and an engineer as consultants the students are introduced to practical engineering attributes such as analytical problem solving using technology, teamwork and design. Each team must produce a CAD presentation of the future city, build a scale model of a section of the city, make presentations on the merits of the future city to teams of judges and prepare an essay on a selected subject. The final competition for the twenty-six regional winners is in Washington D.C. during EWeek. The judging and public viewing for the local Michigan Regional Future City Competition will be on Thursday, January 27, 2005 at Burton Manor, on the Schoolcraft Road service drive of the Jeffries Freeway a bit west of Inkster Road, in Livonia. Come on out and see the exhibits and talk to the students at this truly outstanding pre-college education experience.

IEEE members interested in obtaining promotional materials for EWeek or additional reference materials, handouts and videos for a school presentation, or who want to become involved in other EWeek programs within the Section, or who want to offer any other comments about EWeek, can contact Don C. Bramlett,

PE at (313) 235-7549 during normal weekday business hours, by fax at (313) 235-5180, at home at (734) 591-1452 or by email at bramlettd@dteenergy.com or at d.bramlett@ieee.org.

You may see more often on websites or in publications or literature the phrase "Engineers Make a World of Difference". Think about it. Spread the word.

Have an active and productive EWeek!!!

MSU Students Hosts Soldering Workshop

On Thursday, December 9th, the MSU Student Chapter of IEEE held its first lab workshop of the year. The goal of this workshop was to educate students on proper soldering techniques, as well as give each student an opportunity to build something that they could take home with them. Fourteen students were in attendance at the event to assemble Christmas Tree kits that were purchased thanks to the wonderful support the Electrical and Computer Engineering Department. SEC Rep., Paul Kucher commented that, "I'm not sure if it was people getting into the Christmas spirit or if they really wanted to solder, but I think we had a great turnout."



The event was open to any electrical engineering student, regardless of past soldering experience, and attracted a crowd ranging from freshman to graduate students. Dr. Tim Hogan, IEEE faculty advisor, demonstrated the correct technique, and cleared up common misconceptions that often arise due to improper education on soldering.

There were also several Executive Board members present to help students complete their projects. One of the main objectives of our organization is to educate students on practical topics in engineering to better prepare them for life outside of college. Events like this one serve as a good break from lecture, and allow students to gain hands on experience in the lab.

IEEE plans to host several more lab workshops next semester. If you have an idea for a future lab, please contact Steve Moy, IEEE Lab Coordinator.

Call for Papers

The Second Annual International Conference on Power Electronics for Distributed and Co-Generation

June 27 - 29, 2005

Sheraton Detroit in Novi, Michigan

This three-day international conference will serve an audience of decision makers who are interested in learning about and contributing to the latest commercial advancements and anticipated future developments related to power electronics for DCG systems. Speakers will have an opportunity to present to top executives and technical professionals of leading DCG equipment companies as well as key technical and management professionals in the power conversion and utility industries, and leading researchers from industry, academia and government laboratories.

Submissions sought for:

- DCG Sources (including fuel cells, micro turbine generators, photovoltaics, wind turbines, etc.)
- Power Monitoring, Communications & Instrumentation Control
- Energy Source Electrical Characteristics
- Mechanical & Thermal Packaging Considerations
- Interface with Renewable Energy Sources
- Power Electronics for Distributed and Co-Generation
- Interconnection Standards
- Inverter/Converter Technologies
- Interface with Utility
- Power Quality & Control
- Load/Utility Considerations
- Power Electronics for Flow Control & Dispatch
- Fault Protection
- Business Issues/Regulatory Policies

Types of Presentations:

- Case Studies/Industry Examples: Outstanding examples of recent applications of power electronics in DCG systems including field tests as well as full commercial systems.
- Implementation and Operational Process: Return on investment scenarios and analysis of benefits for implementation of new and improved DCG technologies, with special focus on the role of power electronics; directions and developments in utility interface and integration; needed and/or anticipated changes in regulatory environments.
- Technology Developments: Projections and forecasts for changes in core power electronic technologies, including new designs/implementations, new applications and new methods for implementing solutions.

Submission Guidelines:

Proposals and submissions will be accepted only electronically by email. Send your proposal as an attachment to your email to Jeff Shepard, jshepard@darnell.com .

The Proposal:

The total length of each proposal should be a maximum of 1,000 words and include:

- Abstract of proposed presentation
- Proposed format of presentation
- Brief description of the presentation for the conference pro-

gram (100 words)

- Presenter's profile

Presentation format options:

- Individual paper from industry
- Collaborative industry/academic paper
- Lead a panel discussion

Presenter's Profile:

- Presenter biography and list of affiliations
- Presenter profile for the conference program (50 words)
- Contact information: name, title, company, address, office phone & fax, email, and web site (if applicable)

Deadline for Proposals: 4 February, 2005

Notification and Acceptance Requirements:

Acceptance notification will be announced on or before 18 February, 2005. Acceptance will not be complete until at least one of the authors has registered to attend the conference and present the paper.

Final submission:

The formal paper will be included in the proceedings and consist of a maximum of six pages in a two-column format or a maximum of 12 pages of PowerPoint slides (2 per page).

Deadline for Final Submissions: 29 April, 2005

For more information, please visit the PEDAC Website.

Join AIChE at Reduced Rates

IEEE members in good standing, along with members of other Founder Societies, see below paragraph for Founder Societies, may become local section members of the Detroit AIChE, American Institute of Chemical Engineers, for an indefinite period of time without applying for membership to the National AIChE. The dues for local membership in the Detroit AIChE is \$15/year, local Detroit AIChE members are entitled to discounts for local technical events, can attend the monthly local AIChE meetings, and have the same local section privileges as AIChE National members.

The Founder Organizations AIChE, IEEE, ASME, ASCE, and ASMMP associations banded together in 1904 to create the United Engineering Trustees, Inc. They all occupied the Engineering Building in NYC and would meet frequently and often present to the National Science Foundation and other organizations as a voice for Engineering. However, in the late 90's Donald Trump bought the engineering building and the associations moved to other buildings (or areas). Currently, AIChE, ASME, and IEEE are all located at 3 Park Avenue in NYC.

For additional AIChE membership information email Kevin Taylor (k2356@aol.com).

Events

Fri, Jan 21st

6:00 PM

New Officers Dinner

Lawrence Tech. Univ.

Welcome dinner for new IEEE SEM officers and their spouses. All past and newly elected officers are invited to this event.

Please register at <http://www.emcsociety.org/sectionregistrationdinner.html> by noon January 19th.

Contact: Suleiman Barada, 313-565-8438, 313-550-0525, sbarada@ieee.org

Fri, Jan 21st

4:00 PM

Large-Signal Operation of Microwave AlGaIn/GaN FETs

Dow 1017, University of Michigan, Ann Arbor

Talk by Dr. Robert J Trew (IEEE Distinguished Lecturer)

Recent developments in wide bandgap semiconductor devices provide the opportunity to design and fabricate microwave transistors that demonstrate performance previously available only from microwave tubes.

Contact: Hossein Mosallaei, 734-764-4474, hosseinm@engin.umich.edu

Mon, Feb 7th

6:00 PM

Section Conference Planning Committee Meeting

Univ. of Michigan, Dearborn Professional Education Center Bldg

Planning committee meeting for the Spring 2005 Section Conference and Dinner.

Contact: Mark Ciechanowski, 248-755-4477, mark.ciechanowski@ieee.org

Mon, Feb 7th

6:00 PM

Executive Committee (XCOM) Meeting

Univ. of Michigan, Dearborn Professional Education Center Bldg

All are invited to attend.

6:00pm - Dinner

6:30pm - Meeting

Contact: Suleiman Barada, 313-565-8438, 313-550-0525, sbarada@ieee.org

Tue, Feb 8th

6:30 PM

Engineering Management Society (Chapter X) Seminar

Ford Sustainable Mobility Technologies (SMT) Lab-II building, 15050 North Commerce Drive at Rotunda, Dearborn.

Topic: tbd

Contact: Mark Ciechanowski, 248-755-4477, mark.ciechanowski@ieee.org

Fri, Feb 11th

4:00 PM

Trident Chapter: "One-Dimensional Transistors: Physics, Status"

U-M, Ann Arbor, Dow 1017

Mark Lundstrom of the School of Electrical and Computer Engineering, Purdue University, will examine the device physics, current status, and future prospects for nanotube and nanowire transistors.

Contact: Hossein Mosallaei, 734-764-4474, hosseinm@engin.umich.edu

Want to have your event listed here?

Fill out and submit the Event Submission Form at <http://www.ieee-sem.org/?q=eventform.html>

Advertising in *Wavelengths*

Wavelengths is published eight times a year and sent to more than 3,500 members. These readers are responsible for specifying and purchasing a wide range of electronics components, equipment, and services.

There is no extra charge for color. Special placements can be requested, and will be accommodated if possible. Payment must accompany insertion order. For more information, contact:

Dr. Ramas Ramaswami, MDR
ramaswamis@comcast.net
734-971-5410

Executive Committee

Officers

Chair

Suleiman Barada
313-561-5747
s_barada@msn.com

Vice Chair

Mr. Mark Ciechanowski, P.E.
248-755-4477
mark.ciechanowski@ieee.org

Secretary

Xinhua (Michael) Gu
734-930-9206
guxinhua@imra.com

Treasurer

Mr. Arman Moein
248 371 8354
arman.moein@tricoproducts.com

Junior Past Chair

Dr. Maurice Snyder
734-973- 1300
snyder@adi.com

Administrative

Section Advisor

Mr. Don Bramlett
313-235-7549
d.bramlett@ieee.org

Student Activities

Dr. Hassan Hassan (acting)
248-380-1650
h.hassan@ieee.org

Professional Activities

Dr. Adel Marzougui
519-256-2350
adel_mar@hotmail.com

Technical Activities

Dr. Subra Ganesan
248-370-2206
ganesan@oakland.edu

Educational Activities

Dr. Chris Mi
313-583-6434
chrismi@umich.edu

Membership

Dr. Mohamad Berri
313-999-3358
mberri@ieee.org

IEEE/SEM Chapters

Chapter I- Circuits and Signal Processing

Dr. Hoda Abdel-Aty-Zohdy
248-370-2243
Zohdyhsa@oakland.edu,

Chapter II - Vehicular Technology

Mr. Arman Moein
arman.moein@tricoproducts.com

Chapter III - Communications and Aerospace Electronics

Mr. Robert Desoff
r.desoff@ieee.org

Chapter IV - Trident

Dr. Lisa Anneberg
248-204-2539
anneberg@ltu.edu

Chapter V - Computer

Dr. Subra Ganesan
248-370-2206
ganesan@oakland.edu

Chapter VI - Geoscience and Remote Sensing

Mr. Robert G. Onstott
onstott@erim-int.com
734-994-1200

Chapter VII - Power Engineering and Industrial Applications

Dr. Ramas Ramaswami
734-971-5410
ramaswamis@comcast.net

Chapter VIII - EMC

Mr. Scott Lytle
734-983-6012
s.r.lytle@ieee.org

Chapter IX - Power and Industrial Electronics

Dr. Chris Mi
313-583-6434
chrismi@umich.edu

Chapter X - Engineering Management

Mr. Mark Ciechanowski, P.E.,
248-755-4477
mark.ciechanowski@ieee.org

Chapter XI - Engineering in Medicine and Biology Society

Dr. David K. Stiles
248-568-7341
dkstiles@oakland.edu

Chapter XII - Control Systems

Dr. Suleiman Barada
313-565-8438
sbarada@ieee.org