



Wavelengths



May/June 2003

New Bylaws Change Election Procedures

Vol. 42, No. 7

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

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By Maurice Snyder, IEEE/SEM Chair

In December 2002, the IEEE SEM Bylaws were changed by membership voting to switch from the academic year (July to June) to a calendar year (Jan. to Dec.). This change affects officer's terms since our financial year was already on the calendar year. The change to a calendar year puts us in compliance with the IEEE national officer's terms.



This change has a one-time effect, which impacts on the current officer's terms. At our March 3rd, 2003 Xcom meeting it was resolved that for this year, the officer's and director's terms would be extended by 6 months, that is from June 30, 2003 to Dec. 31, 2003 and the new officers would take office on Jan. 1, 2004.

The schedule for elections for next year, Jan. 1 to Dec. 31, 2004 is as follows:

- Request for nominations appears in May/June, 2003 Wavelengths
- There is no July or August Wavelengths
- Nominations close September 1, 2003
- Ballot published in September 2003 Wavelengths
- Members vote during September and October via web site or mail-in ballot
- Voting ends October 22, 2003
- Results announced at the October 29, 2003 Fall Section Meeting
- Training session for new officers held December, 2003

Offices to be elected include:

- Section Officers: Chair, Vice-Chair, Secretary, Treasurer (one-year term)
- Section Directors: Membership, Professional Activities, Technical Activities (two-year terms). Section Directors of Educational Activities and Student Activities are not up for election, since these are two-year terms that end Dec. 31, 2004.
- Chapter Chairs, Vice-Chairs, Secretaries and Treasurers for the following chapters:
 - Chapter 1 Circuits and Signal Processing
 - Chapter 2 Vehicular Technology
 - Chapter 3 Communication and Aero. Technology
 - Chapter 4 Trident
 - Chapter 5 Computers
 - Chapter 6 Geoscience & Remote Sensing

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IEEE Southeast
Michigan Chapter

**Deadline for the
September issue
is August 29!**

- Chapter 7 Power Engrg. & Industrial Applications
- Chapter 8 EMC (Electromagnetic Compatibility)
- Chapter 9 Power & Industrial Electronics
- Chapter 10 Engineering Management
- Chapter 11 Engineering in Medicine and Biology

Officer's duties can be found on our website at

http://ewh.ieee.org/r4/se_michigan/admin/misc/sectionofficerduties.pdf

Please submit your nominations to me, Maurice Snyder [by email](#). You can nominate yourself or have someone nominate you.

You can also nominate on-line at

http://ewh.ieee.org/r4/se_michigan/officers/nominations/nomination_form.html

Consider Serving as an IEEE SEM Section or Chapter Officer

By Maurice Snyder, IEEE/SEM Chair

It is time to look ahead to our leadership for the 2004 calendar year. The IEEE/SEM Executive Committee invites you to consider opportunities in leadership at either the section or chapter level. Serving as an IEEE/SEM officer is a great way to meet and work with enthusiastic and proactive section members. It's a way to network with local professionals, meet internationally known technical experts, utilize planning and organizational skills, and have fun while growing professionally.

It is also a way to be involved in our Spring and Fall Section Meetings where international experts are invited to give keynote addresses.

Terms of office begin Jan. 1, 2004 and last for one year, except for section directors who are elected to two-year terms. There are five Directors and the terms are staggered (two elected one year, three the next year) so not all directors change each year.

Consider becoming active with a chapter of your technical interest if your time is limited. Serving as a chapter officer is a good way to meet others in your field, keep current on the technology and become familiar with the IEEE structure and activities. If you have interest in the section activities, consider an office at the Section level. Both Chapter and Section activities are excellent experiences to have when applying for Senior Member or Fellow of IEEE.

All of you are invited to any of our Xcom meetings on either the first Monday or first Tuesday of each month, except July. You will be our guest for dinner. Contact me at mfsnyder@ieee.org for a dinner invitation or further information.

Chapter VIII Electromagnetic Compatibility (EMC) Report

By Scott Lytle, Chapter VIII Chair

On June 6th we hosted our annual EMC Fest at the Dearborn Inn. This year we had 115 attendees and vendors. The topic this year was "Principles of Designing for EMC." The speaker was Dr. Clayton Paul, author of the textbook "Introduction to Electromagnetic Compatibility". Attendees were able to have Dr. Paul sign their textbooks at the evening reception following his presentation.

Local EMC Chapter evening presentations during the past year included Achim Gerstner's "Monitoring Complex Devices During EMC Testing" at the 2003 Spring Section Meeting. Michael J. Hart' presented "Horror Stories in Automating EMC Testing". Terry North previewed "DaimlerChrysler EMC Performance Requirements Changes Overview". Mike Windler presented "Testing Above 1 GHz" at the 2002 Fall Section Meeting. Russell V. Carstensen spoke about "NARTE EMC Certifications". In August, Arnie Nielsen & Howard Kendall demonstrated "RC Model Aircraft EMC Considerations" for our first "outdoor meeting" at an RC Aircraft Club in western Wayne county. Igor Belokour's Presented "Coupling of Electromagnetic Energy through Apertures into Enclosures".

Planned lectures for 2003 include James Lawlis on CAN Network EMC Considerations, Ron Monahan on "Motor Noise Suppression" plus Greg Senko on "ESD Techniques". Other presentations may include IEEE EMC Society Distinguished Lecturers Bruce Archambeault and Cheung-Wei Lam

Please mark your calendars for the 2003 IEEE EMC Symposium to be held August 18-22 in Boston, Massachusetts. See the link on our webpage for registration details.

We are now in the planning stages for a local EMC event that will focus on automotive EMC as presented by experts from the various OEM's.

We are using an updated web registration process for our EMC Events plus sharing this capability with the IEEE Southeastern Michigan Section for the spring and fall section meetings. It allows you to register with a credit card for payment and uses the IEEE Concentration Banking system. The system also creates receipts and makes nametags for the events. If your chapter would like to try it for your events, please contact me.

Our chapter planning committee is currently meets two Thursday's per month; once in person at Tim Horton's in Canton, and the other via a teleconference set up by Mark Steffka and General Motors.

My thanks to everyone on the planning committee and to those that attended the events that made this past year a success for IEEE EMC in Southeastern Michigan! The current officers are:

Scott Lytle Chapter Chair
Dennis Barberi Past-Chair
Mark Steffka Co-Chair - Presentations
Mike Bosley Chair - Membership
William Ashe Secretary
Kimball Williams Treasurer
Graeme Rogerson Co-Chair Presentations

We are always looking for "new blood", so please contact me if you would like to be nominated to serve as an officer on our planning committee. Elections are coming soon!

If you would like to get email notifications of our events, please drop an email to S.R.Lytle@ieee.org.

For more information on the above meetings, please [visit our web page](#).

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On Frequency

Have a Great Summer

The next issue of Wavelengths won't be published until September, so I'd like to wish you all a great summer. With life getting faster all the time, I think it's important to take some time off and enjoy life. That may be hard--especially if you're out of work or your job is threatened by changes in your industry--but it's important nonetheless.



We have, after all, a finite number of summers to enjoy, and you should take advantage of them while you can. So take some time off, pack up the family, and head up north, or head out west. Go biking, hiking, camping, or canoeing. There really is more to life than electrical engineering. Have a great summer.

Dan Romanchik, Editor

IEEE/SEM Gives Out Electro-Technology Award at Michigan Regional Future City Competition

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

The 10th Annual Michigan Regional Future City Competition, coordinated by ESD-The Engineering Society and sponsored by the DTE Energy Foundation and Ford Motor Company Fund, was held on Thursday January 23, 2003 at the Laurel Manor in Livonia. The Future City Competition is held each year in association with the annual National Engineers Week (NEW), this year the week of February 16-22. The winners from the 30 regional competitions participate in the finals in Washington D.C. during NEW. Teams of students from 28 middle schools in Michigan participated in the Michigan regional competition with their future city design projects this year.

Judging of student projects was performed in the morning and early afternoon. This is the eighth year that the IEEE/SEM Section members have served as Mentors/General Category Judges for the regional competition. This is the fifth year that the IEEE/SEM Section has provided a dedicated special team of volunteer judges to specifically evaluate student projects for attributes associated with electrical, electronic and computer engineering related subjects. The Section sponsors the Electro-Technology Award, intended to recognize the design project that exhibits the best application of the theory and practice of electrical, electronics and computer engineering and related sciences to promote the sustainable development of the future city.

The Section wishes to thank the total of ten (10) IEEE members and associates, and their companies/institutions, for taking the time to volunteer and help to

make the Michigan Regional Future City Competition a more pleasurable and meaningful experience for the middle school students who participated.

The IEEE/SEM judging team was composed of the following six (6) volunteers:

- Detroit Edison (DTE Energy): Sat Basu
- Ford Motor Company: Scott Amman, PE, Ph.D.
- University of Michigan: Dave Morris, EM Ph.D. Candidate; Michael S. McCorquodale, Ph.D. Candidate and Graduate Fellow; Ruba Talal Borno, EE Graduate Student
- Wayne State University: Laurence G. Dishman, Ph.D.

Other IEEE/SEM volunteers served as General Category Judges:

- Detroit Edison (DTE Energy): Don C. Bramlett, PE, Judging Coordinator for the Michigan Regional Future City Competition
- Cybernet Systems Corporation: Charles J. Cohen, Ph.D.
- Lawrence Technological University: Hassan Hassan, Ph.D.
- US Army - TACOM: Christopher B. Mushenski

The judges had the opportunity to view and evaluate some outstanding futuristic design projects; in particular they viewed some very interesting applications of current and predicted technologies pertinent to IEEE-related fields. The judges and the students had the pleasure to interface and discuss in depth some of the design principles applied, problems encountered, and teamwork principles used.

The IEEE/SEM team of judges awarded the Electro-Technology Award to Scarlett Middle School of Ann Arbor. Don Bramlett and Laurence Dishman presented the award trophies to the team of three presenting students, accompanied by the teacher and the engineer-mentor at the Awards Ceremony that afternoon.

For the overall Michigan Regional Future City Competition, the first place winner was St. Valentine School of Redford.. St. Valentine School represented Michigan in the National Engineers Week Future City Competition finals in Washington D.C. during National Engineers Week, February 16-22, 2003.

The complete list of Michigan Regional Future City Competition award winners follows:

School	City	Award	Award Sponsor
St. Valentine School	Redford	First Place	ESD
Helen Keller Middle School	Royal Oak	Second Place	ESD
Grand Blanc Middle School	Grand Blanc	Third Place	ESD
St. John Lutheran School	Rochester	Fourth Place	ESD
Millennium Middle School	South Lyon	Fifth Place	ESD
Millennium Middle School	South Lyon	Best Rookie Team	ESD

Grand Blanc Middle School	Grand Blanc	Best Essay	ESD
St. John Lutheran	Rochester	People's Choice Award	ESD
Marist Academy	Pontiac	Best Use of Energy	DTE Energy
Marist Academy	Pontiac	Best Transportation Award	Ford Motor Co.
St. Patrick's School	Brighton	Most Creative Use of Materials	CAM
Whittier Middle School	Flint	Best Manufacturing Zone	SME
Whittier Middle School	Flint	Best Use of Materials	ASM Intern'l.
Sherman Middle School	Holly	Best Residential Zone	NSBE
Ann Arbor Learning Center	Ann Arbor	Best Engineered Project	NTH Consultants
U of D Jesuit Academy	Detroit	Most Improved Quality of Life	ACEC/Michigan
Scarlett Middle School	Ann Arbor	Electro-Technology Award	IEEE-SEM

IEEE/SEM Volunteers Judge Science Fair Projects

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

The 46th Annual Science and Engineering Fair of Metropolitan Detroit (SEFMD) was held from March 25 through March 29, 2003 in the Michigan Hall of the Cobo Conference Exhibition Center in downtown Detroit. Judging of student projects was performed on Wednesday, March 26. This year the SEFMD again had over two thousand projects on display in two Divisions, the Junior Division (Middle School students) and the Senior Division (High School students). Exhibits are classified into 13 general categories for judging; including engineering, computer science, physics, and environmental science.

For the tenth straight year the IEEE/SEM Section has provided a team of volunteer judges to evaluate student projects associated with electrical, electronic and computer engineering related subjects. The Section would like to express its appreciation to the IEEE Section members who volunteered to be members of the IEEE judging team this year. The level of participation on the IEEE special awards judging team at the SEFMD was limited this year due to professional responsibilities of Section members, but generally it demonstrates annually a true sense of volunteerism among our membership and a real interest in the technology and science education of our children in the K-12 grades, who will become the future engineers and scientists of this world.

The Section wishes to thank the two (2) IEEE members, and their companies/institutions, for taking the time to volunteer and help to make the Science Fair a more pleasurable and meaningful experience for the middle school and high school students who participated. The IEEE/SEM judging team was composed of the following volunteers:

- Don C. Bramlett, PE, DTE Energy (Detroit Edison)
- Laurence G. Dishman, Wayne State University

Other IEEE/SEM Section members, including Dave Morris, a University of Michigan Ph.D. candidate, served as general category judges at the SEFMD.

The judges had the opportunity to view and evaluate a large number of exhibits, especially some outstanding projects in areas pertinent to IEEE-related fields. The judges and the high school students in the Senior Division had the pleasure to interface and discuss in depth some of the principles, scientific techniques, engineering approach, experimental results and applications pertinent to the projects.

The IEEE/SEM Section, based on the evaluations of the panel of judges, awarded two (2) First Place Grand Awards, consisting of a framed, personalized certificate and \$100 for the one individual student project and a framed, personalized certificate and \$50 for each of the three students for the team project. These two awards were presented to:

Senior Division

Ethan Rein, Jim Bergen and Luke Duncan, students at Dearborn Senior High School, for their project entitled, "Antigravity?" This was a remarkable project; more information may be obtained from their website at www.wdhsvideo.org

Junior Division

Saquib A. Usman, in the seventh grade at Meads Mill Middle School in Northville, for his project entitled, "Why LEDs are being used in Automotive Lighting."

The panel of judges also determined that the IEEE/SEM Section would provide Honorable Mention Awards to two other noteworthy projects, all in the high school age Senior Division. The Honorable Mention Awards each consisted of a framed, personalized certificate for each awardee. These awards were presented to:

Senior Division

Matthew I. McMillan, a junior at Divine Child High School in Dearborn, for his project entitled, "The Smart Bag."

Colin P. Sprinkle, a senior at Detroit Country Day Upper in Beverly Hills, for his project entitled, "VLSI Design Automation."

The awards were presented to the students by Don Bramlett at the SEFMD Awards ceremony that evening at the Star Theater in Southfield..

The IEEE/SEM Section plans to continue to staff other panels of special awards judges at both the Future City Competition and the SEFMD in 2004, and in subsequent years. These are some of pre-college education programs that the IEEE/SEM Section promotes.

NEWS from IEEE

Engineering Careers Congressional Visits Day

IEEE U.S. members concerned about their careers, the effects of globalization, outsourcing and guest labor on engineering employment, and the health of the U.S. engineering workforce are invited to participate in IEEE-USA's Engineering Careers Congressional Visits Day--July 14-15, as a means to share your concerns with your representatives in Congress. Focus: The Impact of Temporary Work Visas and Global Outsourcing on High Tech Employment in the United States.

[read more](#)

Unemployment Rate for EEs Hits Record Level

WASHINGTON (28 April 2003) — The unemployment rate for electrical engineers (EEs) rose to an unprecedented 7.0 percent in the first quarter of 2003, according to the U.S. Department of Labor. The rate stood at 3.9 percent in the previous quarter, and is a full percentage point above the quarterly figure for all workers.

The previous high quarterly EE jobless rate was 4.8 percent (second quarter, 2002). It's difficult to compare the figures, however, because the Bureau of Labor Statistics (BLS) has revamped its occupational classifications and reporting conventions to produce more detailed and accurate reports.

"Despite the change in the bureau's accounting and reporting methods, these unemployment figures are alarming," IEEE-USA President-Elect John Steadman said. "We knew anecdotally that things were bad for many in engineering and computer fields, and these statistics confirm our concerns for engineering employment."

The BLS report showed an unemployment rate for computer software engineers at 7.5 percent, and at 6.5 percent for computer hardware engineers, two of the bureau's new occupational categories. Computer scientists, including systems analysts, showed a slight improvement in joblessness, dropping from 5.1 percent at the end of 2002 to 4.9 percent. Computer programmers recorded a first-quarter rate of 6.7 percent.

When the number of unemployed EEs is added to each of the above computer categories, 172,000 high-tech professionals are out of work. Computer software engineers led the way with 62,000.

To help mitigate unemployment for U.S. high-tech professionals, IEEE-USA is calling on Congress to return the H-1B visa quota to its historical level of 65,000. The current cap is 195,000. IEEE-USA is also concerned about potential abuses in the L-1 intracompany visa transfer program. Business Week magazine reported in March that 329,000 people were working in the United States on L-1 visas in 2001, many in high-tech sectors.

"While we realize the sluggish U.S. economy is responsible for much of the unemployment," Steadman said, "we can't discount the role played by the continuing influx of foreign workers on temporary work visas, and the dramatic increase in offshore outsourcing. Congress needs to create incentives that help to spur the growth and retention of high-value, high-tech jobs here in the United States."

IEEE-USA Sets Up Web Page for Help For Unemployed or At-Risk Members

IEEE-USA recently set up a webpage with links to resources available to U.S. IEEE members who are unemployed or anticipating an involuntary career transition. The URL is <http://www.ieeeusa.org/careers/help/index.html>



EMC Laboratory:

Ford, GM, Toyota & Honda Testing

EU 95/54/EC Testing & other EU Directives

ISO 17025 Certification & AEMCLAP

Other Testing Services: environmental, vibration and mechanical.

Contact: Graeme Rogerson, 734 455 4841, Plymouth MI

Calendar Of Events

Date

July 29 - Aug 2, 2003

Event

[The 10th Annual Tcl/Tk Conference](#)

The conference consists of 2 days of half-day tutorial sessions followed by three days of juried papers, panels, discussions, BOF's and feeding frenzies. This conference is jointly supported by IEEE and Usenix, with help from corporate sponsors Noumena Corporation and ActiveState.

If you use Tcl/Tk or expect to be using Tcl/Tk, this is the best place to learn about the language, its power and applications, More details are available at [the conference website](#).

Contact: Clif Flynt, 734-426-1066, clif@cflynt.com.

Executive Committee

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3358

IEEE/SEM Chapters

Chapter I- Circuits and Signal Processing

[Chapter II - Vehicular Technology](#)

Chapter III - Communications and Aerospace Electronics

Chapter IV - Trident

Chapter V - Computer

Chapter VI - Geoscience and Remote Sensing

Chapter VII - Power Engineering and Industrial Applications

[Chapter VIII - EMC](#)

Chapter IX - Power Engineering and Industrial Electronics

[Chapter X - Engineering Management](#)

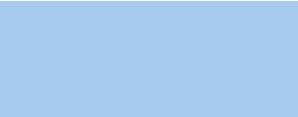
Advertising in Wavelengths

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.

RATES

Equivalent Print Ad	Size in Pixels (max)	Annual Rate (8 issues)	Single Issue Rate
Full Page	540W x 720H	\$4000	\$650
Half Page	270W x 720H	\$2000	\$325
	540W x 360H	\$2000	\$325
Third Page	180W x 720H	\$1500	\$250
	540W x 240H	\$1500	\$250
Quarter Page	270W x 360H	\$1000	\$175
Eighth Page	270W x 180H	\$500	\$90

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



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