



Wavelengths



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From the Chair

A New Year of IEEE Southeast Michigan Section

Dr. Maurice Snyder, Section Chair



Welcome to a new year of IEEE Southeast Michigan Section. As most of you know IEEE is divided into 10 Regions worldwide with six regions in the U.S. We are in Region 4, comprising 9 states in the upper midwest of the U.S. Region 4 has 20 sections and we are the 3rd largest section with over 2480 regular members, 819 student members and 311 affiliated members.

One of our sections's most important events is our twice-a-year technical meetings, one in the Spring and one in the Fall. These meetings have been held by our section for over 12 years and is a rather unique activity among the other sections in our region.

This Fall's Section meeting will be on October 23rd at Lawrence Technical University (LTU) in Southfield, MI. The normal schedule includes parallel technical meetings of the 11 Chapters in our section from 5:45pm to 6:30pm, social period from 5:30pm to 7:00pm and dinner and main speaker from 7:00pm to 8:45pm. Each of the parallel Chapter meetings focus on a specific Electrical Engineering technical subject. Our main speaker is Norman Traub, speaking on the upcoming 42 Volt standard in automotive applications "Dual/Higher Voltage - A Global opportunity".

I encourage you to plan to attend this year's Fall Section meeting. For more information, see the article below and go to our [events page](#).

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Michigan Chapter

Fall Section Meeting

42 V Systems Explained at Fall Section Meeting

Norman Traub, Director of 42 V Initiatives for SAE will give the keynote speech at our Fall Section Meeting on Wednesday, October 23, 2002 at Lawrence Technological University. This talk is timely as all vehicle manufacturers are faced with the challenge of providing more electrical power to offer increasingly fuel efficient and safer vehicles with additional customer features. This can best be accomplished by raising the system voltage provided by the on-vehicle "utility company."



For approximately the last six years, vehicle manufacturers and their suppliers have been discussing the most cost effective way to provide the higher amounts of energy being forecasted. All are in agreement that global cooperation and standardization will be needed. This presentation will outline efforts by the automotive community to provide a degree of standardization to the process and will define some of the technical challenges facing implementation in production vehicles.

Each of the Southeast Michigan IEEE Chapters are also sponsoring speakers at this event. For more information, visit the [Fall Section Meeting information page](#).

Fall Section Meeting Professional Activities Program

Dr. Tarek Lahdhiri, Director, IEEE/SEM Professional Activities

We anticipate that more than 50 student members and 100 regular members representing all levels of electrical and computer engineering profession to attend the Fall Section Meeting. Attendees will include representatives from the big three automakers and other high tech businesses. Within this region, the IEEE Section sponsors ten student branches at universities and few technical schools, all with electrical engineering programs.



The section offers a Professional Activity program which will provide your representatives a superb opportunity for your company/university to meet future electrical and computer technology and engineering degree recipients, publicize your products and services, talk about engineering employment challenges with your company and begin an effective

recruitment process.

All companies and universities are invited to join us and participate in the Section's Professional Activities Program, which includes the following:

- **Student Table Sponsorship**

A sit-down banquet at a table with seating for eight persons during dinner. We will reserve seven places for students, with an eighth place for a representative from your company to interact with the students. The fee for student-table sponsorship is \$250 USD (dinner and registration included for one representative).

- **Vendor Exhibits**

An exhibit on a table, which will be set in the social period area. This setting will provide you with an opportunity to publicize your products and services. The fee for vendor-exhibit table is \$80 USD (dinner and registration included for one representative).

- **University Showcase**

An exhibit on a table to lay out material for advertising your graduate and undergraduate programs, meet prospective electrical engineering students, talk about your programs, and begin effective recruitment process. The fee for the university showcase exhibit is \$80 USD (dinner and registration included for one representative).

Contact:

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IEEE/SEM Director of Professional Activities

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Introduction to Electromagnetic Compatibility Design Practices* - October 3-4 Design Techniques for Controlling Radiated Emissions* - October 7-8



Is getting your product to pass its EMC test sometimes frustrating?

Learn the inside information on EMC and how to design for it from the initial stage through final production. Be part of over 2000 who have taken these classes.

Donald L. Sweeney, with 15 years experience teaching EMC design classes and 30 years experience in the EMC & Electrical Engineering fields, will be offering two courses at the Hilton in Northbrook, IL on October 3-4 & 7-8, 2002.

For students to apply what they have learned from the classes to their specific products, they are encouraged to bring a product, or a schematic of it, to a free personal consultation offered by the instructor or his associate on October 5 or 9.

For more information or to receive a brochure,
call D.L.S. at 847-537-6400 or find us on-line at www.dlsemc.com.

*These are the same classes formerly offered by Don Sweeney through the University of Wisconsin.



On Frequency

Wavelengths Goes Electronic

Welcome to the first issue of Wavelengths to be delivered electronically. We hope that you'll bear with us while we work out the kinks in our delivery system because publishing Wavelengths in this way offers a couple of significant advantages:

- **It frees up funds for other projects.** The printed version of Wavelengths was very expensive to produce. The chapter was spending nearly half of its budget producing the newsletter. Now, we can use those funds for other projects, such as educational programs or other member services.
- **Members will get their issues much faster.** It typically took four to six weeks for the print version to make its way from me to the printer, from the printer to the post office, and via the post office to the membership. Now, Wavelengths will be available as soon as I finish editing it.



The downside is that we don't have a current e-mail address for all

members. In order to reach those members, we're sending out a postcard informing them of the upcoming Fall Section Meeting and encouraging them to update their contact information at IEEE headquarters.

You can help by asking your colleagues if they received an e-mail notification. If they did not, point them towards our website so that they can read the latest issue of Wavelengths and towards the IEEE website to update their e-mail addresses.

If you have any comments or questions about the new format, please feel free to e-mail me. My address is d.romanchik@ieee.org.

Dan Romanchik, Editor

Workshop Provides Auto Power

The seventh annual Workshop on Power Electronics in Transportation (WPET2002) is slated to take place October 24-25, 2002 at the DaimlerChrysler Technical Center in Auburn Hills. Co-sponsored by the IEEE Power Electronics Society, Southeastern Michigan Section, the IEEE Vehicular Technology Society, and SAE International. WPET2002 will focus on various aspects of power electronic circuits and systems in vehicles and provide a forum for in-depth discussions among researchers from industry, academia, and government.

The workshop will include technical sessions covering:

- Electrical Architectures
- Converters and Inverters
- Electric Drives and Motor Control
- Power Semiconductors
- Power Electronics Applications

There will also be a panel discussion on emerging power technologies.

For more information, go to the [WPET2002 website](#).

Chapter VIII News

Chapter VIII Takes Flight

Graeme Rogerson,
VP, Presentations,
Chapter VIII

A beautiful August day saw the IEEE EMC Society host a fun night to show the practical application of EMC principles on model aircraft. Arnie Nielsen (Visteon) & Howard Kendall (GM) talked about their hobby and how their expertise in EMC has helped them understand the issues and problems of interference on radio-controlled (R/C) aircraft.

The generation of electrical interference is a problem for R/C aircraft because a high noise level at an aircraft's receiver could cause it to lose control or not receive signals from the control transmitter. Nielsen and Kendall also discussed spectrum management in terms of ensuring that two transmitters were not working on the same frequency, with possible disastrous effect.

After this discussion, they skillfully demonstrated these principles by flying a top rate R/C airplane and helicopter. They also discussed how you could use this technology to cut the grass and other applications.

The demonstration took place at the [Midwest R/C Society flying field](#), located on Five Mile Road, one mile west of Beck. EST Testing Solutions provided food at the event.



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

Volunteers Needed for 2003 Michigan Regional Future City Competition

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



IEEE/SEM Section members are invited to participate in the Tenth Annual National Engineers Week (NEW) Michigan Regional Future City Competition. For this competition, a team of three middle school students, with a teacher and an engineer as advisors, will take part in a hands-on design experience as they design a "future city" by computer. The regional competition is open to all middle schools in Michigan.

You can be a part of the exciting Michigan Regional Competition, one of the most stimulating and rewarding pre-college educational programs with which I have ever been involved. Volunteer engineers are needed to help teams of seventh and eighth grade students and their teachers to use a computer to design and model a city of tomorrow. As a volunteer engineering advisor, you will share practical engineering skills such as teamwork, problem-solving, Computer Aided Design (CAD) and applied math and science.

A volunteer engineer will typically spend a total of 18 to 24 hours, as an advisor or counselor to a team of students, from mid-October 2002 through the date of the Michigan Regional Future City Competition. The Michigan Regional Future City Competition is scheduled for Wednesday, January 22, 2003 at the Ford Conference & Event Center (previously known as the Spirit of Ford) across the street from the front of Henry Ford Museum in Dearborn. The volunteer engineering advisor for the winning team of the Michigan Regional Competition will also accompany the three member student team and the teacher advisor on a free trip to the national competition in Washington DC during NEW, February 16-22, 2003.

If you should not be able to devote the time to be a volunteer engineering mentor, engineers

Judges Needed, Too

This is the fifth year that IEEE-SEM will provide a dedicated team of judges and a special professional organization award for the project having the most innovative application of electro-technology in the design of a city in the future. Judging for the 2003 Michigan Regional Future City Competition will be on Wednesday, January 22, 2003 at the Ford Conference & Event Center (previously known as the Spirit of Ford) across the street from the front of Henry Ford Museum in Dearborn. Judging will be from 8:00 AM to 11:00 AM, followed by lunch. Free parking, coffee, juice, sweet rolls, and lunch are available that day for the judges. This pleasurable and fulfilling task only takes half a day

Please volunteer to be among those to comprise the team of IEEE/SEM special award judges. More information on the Future City Competition can be found in the related article on that subject in this issue of the Wavelengths.

I encourage anyone who has

are also needed as judges on the day of the Michigan Regional Future City Competition. You may serve on one of the overall general judging teams or on the IEEE/SEM Section Special Professional Award judging team (see sidebar at right).

The project each team of students works on consists of five phases:

1. Design a future city using SimCity 2000 software by Maxis (provided free).
2. Produce a color CAD drawing presentation of an aerial view (map) of the future city using the Urban Renewal Kit, add-on software from Maxis (provided free).
3. Build a scale model of one section of the city; 30" (w) X 60" (l) X 24" (h) maximum.
4. Write a 500-word essay on a specified subject related to city planning.
5. Give an oral presentation at the Detroit Regional Competition.

The role of the volunteer engineer is to serve as a mentor to the students. The engineer may be involved in all phases of the project as an advisor to provide input and technical assistance. It is important to tie in real life engineering experiences as the students work on the project. However, the students are to do all of the actual work, such as the computer design of the future city, building the table-top model, writing the essay and giving oral presentations.

ESD-The Engineering Society will serve as the primary sponsor of the 2003 Michigan Regional Future City Competition. As a member organization of the ESD Affiliate Council, composed of representatives of the local sections or chapters of some 40 engineering, technical and professional societies, the IEEE/SEM Section strongly encourages members to participate in this worthwhile endeavor.

A comprehensive Teacher/Engineer Volunteer Handbook is available, detailing contest specifics and providing answers to the types of questions that you as a volunteer engineer may have. To receive this free handbook or to register as a volunteer engineer, contact Marlene Van Nixon at ESD-The Engineering Society at (248)355-2910 ext. 135 or by email at mvannixon@esd.org.

an interest in the science and math education of our youth or an interest in pre-college education programs to consider being a judge at the Michigan Regional Future City Competition. As a judge myself in previous years, I have found the experience of talking with the students, finding out their interests and observing their projects/presentations to be very rewarding. So come out and spend the morning with us as we meet with some of the potential engineers, scientists and city planners of the future.

If interested in more information concerning being a judge for the IEEE-SEM professional award at the Michigan Regional Future City Competition, contact Don Bramlett at (313) 235-7549 during normal weekday business hours, or at home at (313) 525-5422 or by email at d.bramlett@ieee.org.

Calendar Of Events

Date**Event**

Monday,
October 7

Executive Committee (Xcom) Meeting

Location: Univ. of Michigan, Dearborn,
Professional Education Center Bldg, PEC 1420. [directions](#)

6:00pm - Dinner
6:30pm - Meeting

Wednesday, October 23 [Fall Section Meeting](#)

Location: Lawrence Technological University

Our semi-annual section meeting will feature a keynote presentation on 42 V automotive electrical systems and technical presentations from many of our chapters

Contacts: [Suleiman Barada](#)

Thursday,
October 24 -
Friday,
October 25

[7th IEEE Workshop on Power Electronics in Transportation \(WPET2002\)](#)

Location: DaimlerChrysler Technical Center, Auburn Hills, Michigan, USA

WPET2002 will focus on various aspects of power electronic circuits and systems in vehicles and provide a forum for in-depth discussions among researchers from industry, academia, and government.

Topics covered include electric and hybrid drivetrains, motor drive and motion control, fuel cell technology, batteries, inverters and converters, 42V PowerNet, conventional load control, control design, on-board power management, power semiconductors, CAD/CAE, EMI/EMC, and thermal management and packaging.

To have your event listed here, [submit this form.](#)

Executive Committee

Officers

Chair	Maurice Snyder	734-973-1300	snyder@adi.com
Vice Chair	Suleiman Barada	313-561-5747	s_barada@msn.com
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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.



For more information, contact Dan Romanchik, Wavelengths Editor, phone 734-930-6564, e-mail: d.romanchik@ieee.org.