THE INSTITUTE OF ELECTRICAL & ELECTRONICS ENGINEERS
SOUTHEASTERN MICHIGAN SECTION, IEEE/SEM
Vol.41, No.2
October 2001

WAVELENGTHS

October, 2001 IEEE Southeastern Michigan International Section Meeting The Cleary Center – Windsor, Ontario, Canada

One of the descriptive terms that we use to characterize the IEEE is that we are an 'International' organization. And, given that over 30% of our membership are constituted from non-US members that is certainly true. Here in the SEM, we are truly an 'international' body in that our official boundary includes IEEE members in our sister city of Windsor, Ontario and its surroundings.

This fall, we take a major step towards effective internationalization in Southeastern Michigan Section when we hold our regular section meeting outside of the United States for the first time. The Fall-meeting of Southeastern Michigan IEEE Section will be held on Wednesday, October 24, 2001 at the Cleary Center in Windsor, Ontario, Canada. Our keynote speaker will be the IEEE's newest, and first international President Elect, Ray Findlay of Canada.

So, mark your calendars, log int o the Southeastern Michigan website `http://www.ewh.ieee.org/r4/se_michigan` and registrar, TODAY!

Schedule

The Fall Section Meeting will follow our usual Section Meeting schedule as shown below:

5:30 p.m.	Registration Desk Opens
5:45-6:30 p.m.	Parallel Chapter Technical Sessions
5:45-7:00 p.m.	Student Branch Exhibits, University Showcase Tables, Vendor Exhibits and Social with Cash Bar
7:00 p.m.	Registration Desk Closes
7:05-8:00 p.m.	Dinner
7:45-9:00 p.m.	Featured Presentation
9:30 p.m.	Adjourn

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Soliciting Nominations For IEEE Awards

By John M. Miller, IEEE/SEM Past Chair

The IEEE/SEM Spring Meeting 2002 will mark the 10th annual awards ceremony for our section. During the past decade we have been privileged to honor members and student branches who have set high standards of IEEE service for themselves. To again acknowledge deserving individuals and student branches we need your help to identify their contributions. To this end the IEEE/SEM awards committee is soliciting nominations from our membership in the following areas:

Outstanding Engineer: This award is presented to a member who has demonstrated outstanding service or accomplishment in the electrical, electronic, or computer engineering profession. The award recognizes such long term achievement in business, academia and private enterprise though patents, publications, development of standards, encouragement of student interest in the profession and other professional endeavors.

Outstanding Section Involvement: The award serves to acknowledge a member who has been active in section activities and has gone beyond the norm in leadership, participation and accomplishments at the section level.

Outstanding Chapter Involvement: This award is presented to a member who, by virtue of their commitment and dedication to one of the IEEE/SEM technical society chapters, is deserving of special recognition for leadership, enthusiasm and accomplishments in chapter activities and programs.

Outstanding Student Branch Involvement: This award is presented to a student branch, student branch member(s), section member(s), or a student branch counselor/advisor in recognition of their leadership, participation, support, or accomplishments relating to the operations and programs of a student branch(s) and for promoting the engineering profession among

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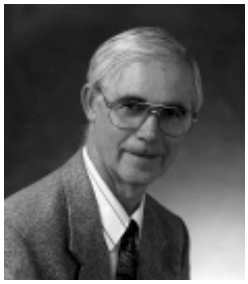
IEEE/SEM Fall 2001 Section Meeting Featured Speaker

By Kimball Williams, Vice Chair

This year's featured speaker is Mr. Ray Findlay, IEEE 2000-2001 President Elect. Mr. Findlay's presentation will address how does the downturn in the economy affect the good health of the IEEE? How will it affect IEEE Technical Society operations? How will the redistribution of membership around the globe affect the operations and outlook for the IEEE of the future? How do we rejuvenate membership in IEEE in North America? Mr. Findlay will discuss these issues and offer commentary on solutions to any perceived problems.

Mr. Ray Findlay: teacher, engineer, scientist, researcher, IEEE member and officer has been a part of the leadership of our institute since the 60's. His teaching extends beyond his duties to the Universities he is associated with to classes and workshops for IEEE groups everywhere. And, he does seem to teach 'everywhere'. Yet, even with his frantic schedule, he has always been willing to take time to chat with a new, young members (me included) to help spread an understanding of what IEEE is and for what it stands.



Mr. Ray Findlay is a practicing engineer in Ontario, and Vice President of JDRF Electromag Engineering Research, Inc., a company specializing in research and development involving electromagnetic, power devices and equipment, energy systems, and development of new electromagnetic drives and separators. Mr. Findlay is also a tenured professor at McMaster University, where he teaches electrical machines at both the graduate and undergraduate level. He taught at the University of New Brunswick prior to joining McMaster University in 1981. Mr. Findlay spent 1972-73 with GE in Peterborough, Canada, 1979-80 at the University of Southampton, (UK) and during 1988 worked at CSIRO, Sydney, Australia, and the Katholieke Universiteit, Belgium. His research interests include electromagnetic fields and losses in electrical power devices in which he has more than 150 technical papers and 4 patents. Mr. Findlay, a Fellow of both IEEE and Engineering Institute of Canada (EIC) was awarded the CPR Engineering Medal from EIC in 1998.

IEEE Southeastern Michigan Section Executive Committee

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IEEE/SEM Chapters

- **I** ***Circuits & Signal Processing***: Acoustics, Speech & Signal Processing (ASSP-01), Circuits & Systems (CAS-04), Information Theory (IT-12) and Control Systems (CS-23)
- **II** ***Vehicular Technology***: Vehicular Technology (VT-06)
- **III** ***Comm. & Aero. Electronics***: Aerospace & Electronics Systems (AES-10) and Communications (COM-19)
- **IV** ***Trident***: Electron Devices (ED-15), Microwave Theory & Techniques (MTT-17) and Antennas & Propagation (AP-03)
- **V** ***Computer***: Computer (C-16)
- **VI** ***Geoscience & Remote Sensing***: Geoscience & Remote Sensing (GRS-29)
- **VII** ***Power Eng. & Ind. Apps.***: Power Engineering (PE-31) and Industrial Applications (IA-34)
- **VIII** ***EMC***: Electromagnetic Compatibility (EMC-27)
- **IX** ***Power & Ind. Electronics***: Power Electronics (PEL-35) and Industrial Electronics (IE-13)
- **X** ***Engineering Management***: Eng. Management (EM-14)

Wavelengths

EDITORS
IEEE SEM Communications Committee

WAVELENGTHS ADMINISTRATOR
Cynthia Wiktor
Advent Engineering Services, Inc.
PO Box 555
Ann Arbor, MI 48106-0555
O: 734-930-7500
F: 734-327-7501
cjw@adventengineering.com

PRINTER
Progressive Printing
1326 Goldsmith
Plymouth, Michigan 48170
734-459-2960

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Visit the following IEEE World Wide Web sites:

Section: *www.ieee.org/regional/section/se_michigan*
Computer Chapter: *www.egr.msu.edu/ieeesem/chapv/*
IEEE: *www.ieee.org*
IEEE Region 4: *www.ieee.org/regional/r4/*

Calendar of Events

Monday Oct. 1st *(Tentative)*
Event: **SEM Executive Committee Meeting**
Time: Dinner at 6:00 pm, Meeting 6:30 pm
Location: Eaton Corporation, 26201 Northwestern Hwy, Southfield
Contact: Kimball Williams, k.Williams@ieee.org, 248-354-2845

Wednesday Oct. 24th
Event: **IEEE Fall 2001 Section Meeting**
Location: Cleary Center, Windsor, Ontario, Canada
Sponsor: Southeastern Michigan Section IEEE
Contacts: Graeme Rogerson, graeme.rogerson@ieee.org
Kimball Williams, k.Williams@ieee.org, 248-354-2845

Monday Nov. 5th *(Tentative)*
Event: **SEM Executive Committee Meeting**
Time: Dinner at 6:00 pm, Meeting 6:30 pm
Location: Eaton Corporation, 26201 Northwestern Hwy, Southfield
Contact: Kimball Williams, k.Williams@ieee.org, 248-354-2845

Monday Dec. 3rd *(Tentative)*
Event: **SEM Executive Committee Meeting**
Time: Dinner at 6:00 pm, Meeting 6:30 pm
Location: Eaton Corporation, 26201 Northwestern Hwy, Southfield
Contact: Kimball Williams, k.Williams@ieee.org, 248-354-2845

Chapter I: Circuits & Signal Processing
Chapter III: Comm. & Aero. Electronics

Speaker: Ms. Maya Rubeiz

Affiliation: Wright Patterson Air Force Base

Title of Presentation: Rapids Prototyping of Application Secific Signal Processors (RASSP)

Abstract: The Rapid Prototyping of Application Specific Signal Processors (RASSP) program was a Defense Advanced Research Projects Agency (DARPA)/Tri-service initiative to dramatically improve the design process for complex digital systems, particularly embedded signal processors. Key objectives included reducing the total product development time by at least a factor of four while making similar improvements in product quality and life cycle cost. The legacy of the RASSP program, "VHDL: Electronic Systems Design Methodologies and Interactive Tutorial", was published by the IEEE.

Biography: Ms. Rubeiz is an Electrical Engineer in the Embedded Information System Engineering Branch, Information Technology Division, Air Force Research Laboratory, Wright-Patterson AFB, where her current research areas include methodologies for information signal processing, CAD tools for space-based applications, and the automation of analog and mixed signal design. Previous work includes VHDL AMS and Rapid Prototyping of Application Specific Signal Processors. Her engineering background includes two major aircraft program offices in the Air Force Materiel Command/Aeronautical Systems Center where she worked on the aircraft navigation systems (Inertial Navigation Systems (INS) and the Global Positioning Systems (GPS)). Ms. Rubeiz received a B.S. in Electrical Engineering from the University of Nebraska - Lincoln, NE, a M.S. in Electrical Engineering from the University of Dayton, OH.

Chapter II: Vehicular Technology

Speaker: Mr. Karl. A. Keckan

Affiliation: Ford Motor Company

Title of Presentation: Vehicle Battery

Abstract: The vehicle battery is often viewed as a "given". The vehicle battery is expected to provide an exact 14 volts and be impervious to the climatic conditions and driver abuse, the power supply must be constantly monitored and cared for. Mr. Karl A. Keckan has spent many years in a position to create and employ many of these measures at Ford.

The battery improvements, competitive benchmarking, costs per vehicle (1994-1999), and warranty cost improvements at Ford will be reviewed. The presentation will analyze common failure modes and the corrective actions that were deployed. Key life tests were used to prove out the performance in fleet tests. The speaker will also provide an overview of the basic structure of the battery and the protective devices used for heat protection. To conclude this presentation, Mr. Keckan will review the lessons learned and test equipment, which have placed Ford batteries at the lead in the industry for durability capability and life expectancy.

Biography: Mr. Karl A. Keckan has been with Ford Motor Company for 28 years. His present position is with the Power Supply Standards & Processes group. Mr. Keckan is the Battery Technical Specialist for Ford Motor Company.

Chapter IV: Trident
Chapter VI: Geoscience & Remote Sensing

Speaker: Dr. Mehmet Uras

Affiliation: Lawrence Technological University

Title of Presentation: New Developments in Magnetostrictive Sensors and Their Automotive Applications

Abstract: Magnetostrictive sensors offer many attractive features. They are simple, very rugged and inexpensive yet they produce considerably more output. After the review of different types of magnetostrictive sensors and signal detection methods, a constant-flux excitation Magnetostrictive Dynamic Strain Sensor will be presented. Permanent magnet provides the constant-flux excitation to the magnetic circuit of the sensor. Therefore, no other electrical excitation or power source is needed. This sensor does not require any signal conditioning, either. Since it is a constant-flux excitation, the sensor detects only dynamic events such as mechanical impact. The sensor has many promising automotive applications including crash and cylinder fire or misfire detection.

Biography: Dr. Mehmet H. Uras is associate professor of mechanical engineering at Lawrence Technological University. He received his B.S.M.E., M.S.M.E. and Ph.D. degrees from the University of Michigan, Ann Arbor, Michigan. His research interests include magnetostrictive sensors, crash and occupant sensing, friction/vibration interactions and internal combustion engines. He is the author or co-author of over 15 articles published in refereed journals and conferences. He has carried out numerous research and development projects funded by industry and government, and served as a consultant to industry. He is a member of SAE, ASME and ASEE. Dr. Uras can be contacted at Uras@Ltu.Edu or (248) 204-2579.

Chapter V: Computer
Chapter IX: Power & Ind.Enlectronics

Speaker: Mr. Daniel Katanski

Affiliations : DTE Energy and Creative Software, Incorporated

Title of Presentation: Flicker the Dragon - A Look at a Computer-Animated Dragon

Abstract: Flicker the Dragon, is one of the giant floats built by The Parade Company for the 2000 America's Thanksgiving Parade ®, and the organizations first attempt to use computer technology in the floats. The Parade is an award-winning nationally televised event celebrating its 75th Birthday in 2001. Our parade is the third largest parade in the country and is syndicated to more than 250 markets internationally reaching 98 million households.

The artistry of the floats has reached such a level that the next step in the evolution is to bring the floats to life through movement choreographed to music and light, bringing delight and wonder to more than one-million excited children of all ages lining Woodward Avenue on Thanksgiving morning.

The presentation will cover challenges related to design constraints, technology, control and backup systems, FLOAT (Float Operations and Animation Technology) software architecture and actual software demonstration (actual 50-foot dragon not included).

Biography: Mr. Daniel Katanski is the owner of Creative Software, Incorporated (since 1979), who provides systems integration services in Southeastern Michigan for a wide variety of customers, including utility and automotive industries.

Mr. Katanski is in his 9th year as a volunteer with America's Thanksgiving Parade® where he instigates the use of technology in The Parade, and helps design, build and operate computer-animated floats. Mr. Katanski is also the area chairperson of the infamous Equestrian Escorts, who perform critical services Thanksgiving morning (you wouldn't like it if the EEs weren't there!). Educational background: Bachelor of Science in Computer Science and Industrial Technology (1975), Master of Business Administration (1984), Graduate Certificate in Artificial Intelligence (1992). Contact Info: `Dan@CreativeSw.com` or `KatanskiD@DTEEnergy.com`.

Chapter VII: Power Eng. & Ind. Apps.

Speaker: Mr. Thomas Domitrovich

Affiliation: Culter Hammer's Power Monitoring Division

Title of Presentation: Power Monitoring in a Deregulated Environment

Abstract: Presentation will address power monitoring applications in industrial and utility environments with a special focus on recent advances in technology, as well as a discussion of the effect of deregulation on the industry.

Biography: Mr. Domitrovich has a Bachelor of Science degree in Electrical Engineering with a concentration in Power Engineering from Gannon University in Erie Pennsylvania that he received in 1990.

Since then, he has worked with an Architecture/Engineering firm that specialized in industrial, fossil generation and nuclear generation and performed systems analysis and design functions in these areas of the industry.

He began working at Eaton Cutler-Hammer in 1996 as an Application Engineer focusing on energy management monitoring and communication products. In 2000, he became Product Manager for Eaton Corporation's Communication hardware and software products.

Chapter VIII: EMC

Speaker: Dr. Andrew Podgorski

Affiliation: ASR Technologies

Title of Presentation: Lightning Effects, Protection and Modeling

Abstract: Lately, a 16.5 % failure rate was reported on commercial airliners due to lightning strikes, which may not be acceptable in the future. Dr. Podgorski concluded that the 200 kA lightning peak current amplitude, provides an excellent standard for protection against direct lightning effects. However, the situation changes drastically in the case of indirect lightning effects - specified by peak current derivative (fastest current rise time). The measurements of lightning peak current derivative needs to be considered. Existence of such short rise times, impose the need for development of new tools for numerical simulation and testing. Dr. Podgorski will discuss how to use the Pobabilistic Expert System to model lightning protection and assess its effectiveness. Furthermore, he will address following additional topics:

1. Present and Future Requirements for Standards, Protection and Testing in the Areas of Lightning, NEMP, HPM and ESD - Composite Threat.
2. Ultra-Wideband Measurements of Picosecond Electromagnetic Fields - fully automated immunity and emission measurements in DC to 100 GHz frequency range.

Biography: Dr. Podgorski is the President of ASR Technologies - an Independent Research Company. He holds a

MASc in Microwaves and a PhD degree in Semiconductors and Bio-medical Technologies from the Department of Electrical Engineering, University of Waterloo, Waterloo, Ontario, Canada. Over the years he has been involved in numerous programs for the Canadian Government and Industry. He was a Group Leader responsible for direction, planning, and administration of Electromagnetic Interference/Compatibility Group's activity at the National Research Council of Canada. He has served on many international inter-governmental military and civilian panels of experts representing Canada, the USA , Europe and Australia. In 1992 he was elected to the Board of Directors for the Electromagnetic Compatibility (EMC) Society of the IEEE, and was nominated a "Distinguished Lecturer" by the EMC Society. His name is listed in the Canadian "Who's Who" Publication. Dr. Podgorski's can be contacted by tel: (613) 737-2026 or by email at: a.podgorski@ieee.org.

Chapter X: Engineering Management

Speakers: Jim Ruthvem

Affiliations: IBM

Title of Presentation: Telematics

Abstract: In this presentation, Mr. Ruthven will talk about IBM's perspective on how the telematics marketplace has and is evoloving, the challenges associated with the marketplace, and how the folks of IBM are addressing these challenges.

Biography: James (Jim) Ruthven has spent the last 20 years working for IBM in various sales capacities. During his IBM career, he has spent 15 years working with the automotive industry. Jim has led both sales and services teams focused on providing information technology solutions to OEM business problems. For the past four years, Jim has focused on the automotive telematics marketplace. He is currently responsible for IBM's sales efforts related to automotive telematics in the Americas, leading a team of specialists dedicated to providing leading edge solutions to the challenges inherent in delivering internet and legacy content to a variety of devices. Jim attended the University of Cincinnati, where he majored in Marketing and Business Administration. He received his MBA from Michigan State University in 1995. He is married with three children, and lives in Beverly Hills, Michigan.

Student Track

Speakers: Dr. Hassan Hassan

Affiliations: Lawrence Technological University & IEEE/SEM Student Activities Director

Title of Presentation: Creativity, Innovation, and Problem Solving: An Introduction

Abstract: This technical session will broadly explore the concepts of creativity, innovation, and problem solving in terms of assisting every person in any field to release their innate abilities to create and innovate. The topics covered will include: Where creativity occurs; Keeping a diary; Humor and creativity; Phases of Creativity; Creativity Techniques; Generation of Ideas by brainstorming; Synetics; The Triz Method; Creation, protection, and exploitation of ideas; Patents, copyrights, trademarks, and trade secrets; Creative Examples.

Biography: Dr. Hassan has been an Associate Professor of Electrical and Computer Engineering at Lawrence Technological University for over 12 years. He has taught numerous courses including Electrical System Design, advanced Digital Electronics, Advanced Analog Circuit Design, Integrated Circuit Design, VLSI Design, Digital Image Processing, Control Systems, Digital Control Systems, Communication Systems, Electronics, and Microprocessors. Dr. Hassan has also taught MS and Ph. D. graduate level courses such as network synthesis, VLSI Design, Artificial Intelligence, and Optical Communications. Dr. Hassan has published a number of scientific papers in the fields of Computer Engineering, Manufacturing, and Automotive Electronics. Dr. Hassan has a licensed Professional Engineer in Michigan since 1988 and a Senior Member of IEEE.

IEEE/SEM Section Pre-College Education Activity History

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

The IEEE-USA Pre-College Education Committee ran for the second year in 2000 a competition to select outstanding pre-college education activities in IEEE Sections. The IEEE/SEM Section made an entry for each of the four pre-college education programs, listed below, we were involved in this year. We are proud to say that our Section was selected as one of only three Sections to provide a display and make a presentation on a pre-college education program at the IEEE-USA Professional Development Conference in Scottsdale, Arizona over this last Labor Day weekend. I represented the IEEE/SEM Section and spotlighted the Section initiative in coordinating IEEE special awards judging at the Intel International Science and Engineering Fair 2000 (ISEF 2000).

The IEEE-SEM Section was actively involved in four (4) established pre-college education programs in 2000, the Intel International Science and Engineering Fair 2000 (ISEF 2000), the Science and Engineering Fair of Metropolitan Detroit (SEFMD), the Michigan Regional Future City Competition, and the National Engineers Week (NEW) Discover E (E for Engineering) Outreach Program.

Though the IEEE-SEM Section is a fairly large Section, there are only a certain number of really active members and even fewer members that are willing to take a real leadership role to initiate and maintain an extensive pre-college outreach program. Therefore, the IEEE-SEM Section Executive Committee makes the best use of its volunteer resources by supporting and sponsoring participation in existing pre-college education programs rather than try to duplicate existing programs or create some new program of untried success.

The IEEE-SEM has a fair history of involvement with K-12 pre-college education programs in the southeastern Michigan area. In 1990 the National Engineers Week (NEW) Committee initiated the Discover E Program, now the largest engineering pre-college education outreach program of its kind. The IEEE-SEM Section has strongly encouraged and advertised involvement in the Discover E program since its inception and now completing its eleventh year in existence.

In early 1995 the IEEE-SEM Section took up the call from the Engineering Society of Detroit (ESD) to provide a dedicated team of volunteer member judges and present a series of special awards at the Science and Engineering Fair of Metropolitan Detroit (SEFMD). For a number of years prior, the IEEE-SEM Section had manned a booth to provide career information concerning the electrical, electronic and computer engineering profession. This year is the sixth year that the IEEE-SEM Section has provided a dedicated team of volunteer member judges and presented special awards at the SEFMD. IEEE-SEM members also serve as some of the general category judges at the SEFMD.

In 1993, the NEW Committee initiated the Future City Competition. This was the year IEEE, under the leadership of then IEEE President Martha Sloan, Northern Michigan Section, was the lead engineering society for NEW. Michigan was not a participant in the first Future City Competition, but did become a participant in the competition from 1994 to this day. The IEEE-SEM started encouraging and advertising member participation as mentors to middle schools and general category judges in the Michigan Regional Future City Competition in 1995. In 1999, the IEEE-SEM again answered the call of the Engineering Society of Detroit (ESD), the Michigan Regional sponsor and coordinating organization, and also provided a dedicated team of volunteer member judges and awarded the Electro-Technology Award to a deserving team of middle school students. This year is the second year that the IEEE-SEM Section has sponsored and awarded the Electro-Technology Award at the Michigan Regional Future City Competition. IEEE members also still serve as some of the mentors for middle school student teams and general category judges as well.

In 1999, IEEE first awarded the $10,000 Presidents' Scholarship to an outstanding high school senior at the Intel International Science and Engineering Fair 1999 (ISEF 1999) in Philadelphia, PA. Since the ISEF 2000 would be in Detroit, MI, within the boundaries of the IEEE-SEM Section, the following year, IEEE asked that the IEEE-SEM Section provide a judge at ISEF 1999 and that person would act as a liaison and contact with IEEE for providing a judging team and presenting the IEEE Presidents' Scholarship at ISEF 2000. As that IEEE-SEM member, I also acted as the Lead Judge for the team at ISEF 1999.

The IEEE-SEM Section successfully coordinated the judging and awards presentation activity for the IEEE $10,000 Presidents' Scholarship at ISEF 2000. The Section also spearheaded obtaining the funding from IEEE Region 4 and neighboring IEEE Sections for the IEEE ISEF 2000 judging team to award eight $500 Region 4 awards to additional outstanding students at the ISEF 2000. Besides judges from the IEEE-SEM Section, the IEEE ISEF 2000 judging team was supplemented with members from the Northeast Michigan Section, the West Michigan Section and the Toledo (Ohio) Sections, all in the East Area of Region 4. A member from the Santa Clara, CA Section was also a member of the judging team; San Jose is the site of ISEF 2001 and is located in the boundary of the Santa Clara Section. A number of other IEEE/SEM Section members also served as general category judges at ISEF 2000.

IEEE/SEM Involvement with the ESD Affiliate Council

By Don C. Bramlett, PE, IEEE/SEM Section Advisor
And ESD Affiliate Council Representative

ESD, The Engineering Society (previously known as the Engineering Society of Detroit) was originally founded some 106 years ago in 1895 as the Association of Graduate Engineers of the University of Michigan. ESD has evolved into the largest multi-disciplinary engineering and scientific society of its kind, with members throughout the Great Lakes Region. ESD manages technical conferences and professional programs, and oversees educational programs supporting the math and science of our youth, such as the Science and Engineering Fair of Metropolitan Detroit and the Future City Competition, associated with National Engineers Week (NEW). Members of the IEEE/SEM Section serve as mentors and judges, and the IEEE/SEM Section provides a team of judges and sponsors special professional awards in these pre-college education programs.

The ESD Affiliate Council, a committee of ESD is composed of representatives from the local sections or chapters of over 40 engineering, scientific and professional societies, including IEEE, in the metropolitan Detroit area. The ESD Affiliate Council, a local version of the American Association of Engineering Societies (AAES), has the mission to promote cross-society cooperation and communication among officers of Affiliate Societies by conducting activities that fulfill common interests and goals. These activities include providing a vehicle for recognition; promoting knowledge of the science and engineering disciplines; assisting in joint programming; and fostering employer support. Additional activities include conducting seminars on membership development, local organizational management and the utilization of personnel and financial resources.

Benefits to IEEE of belonging to the ESD Affiliate Council include:

- Opportunities to schedule events with other Affiliate Societies, eg. MSPE, SAE, ASME, ASHREA.
- Membership and information contacts to Affiliate Societies and Officers through ESD.
- Technical meeting announcements and links to societies home pages on ESD Website.
- Society information and contact listing in annual ESD Roster magazine; circulation of 8,000 members.
- Auto, homeowners and renters insurance available to Affiliate Society members.
- Eligibility to sponsor nominee for prestigious annual Gold Award.
- Eligibility to present society awards at the Gold Award Banquet held annually during NEW in February 2002.
- Inclusion of society information and awards in Gold Award Banquet program book.
- Participation and judging opportunities in the Science Fair and Future City Competition.
- Opportunities for co-sponsorship of events and conferences with ESD.
- Opportunities for networking with other Affiliate Society Officers and members.

Any IEEE member wishing more information about the association of the IEEE/SEM Section with the ESD Affiliate Council, should contact Don C. Bramlett, PE at 313-235-7549 or via email at d.bramlett@ieee.org.

Soliciting Nominations For IEEE Awards

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students. More than one award may be presented in any year.

Nominators are asked to adhere to the following minimum set of rules:

1. All nominees and nominators must be members or student members of IEEE/SEM in good standing.
2. Nominations must be submitted on IEEE/SEM forms and address the criteria above for each award.
3. Nominations must be received on or before the scheduled dates listed below to be considered for an award. Late submissions will not be acknowledged.

The deadlines for submission are:

Outstanding Engineer by Monday, December 3, 2001
Outstanding Section Involvement by Monday, December 3, 2001
Outstanding Chapter Involvement by Monday, December 3, 2001
Outstanding Student Branch Involvement by Friday, February 8, 2002

Award nomination forms can be downloaded from the IEEE/SEM Web site, http://www.ewh.ieee.org/r4/se_michigan/ in Microsoft Word format. Completed nominations must be received by John M. Miller on or before the deadlines listed above; they may be emailed to jmille24@ford.com. The IEEE/SEM awards committee appreciates your efforts and we encourage all our members to recognize their deserving peers by nominating them for an award. Thank you.

October, 2001 IEEE Southeastern Michigan Section Meeting

Continued from page 1

Plan to arrive on time to take part in all the activities of the meeting. If you do not plan to attend one of the chapter technical meetings before the dinner, please take that time to browse through the vendor tables, the universities showcase tables and student branches exhibits or practice your networking skills with your colleges.

Location and Host

We will hold the Fall 2001 section meeting in Windsor, Ontario, Canada at the Cleary Center. The building for the meeting is located at:

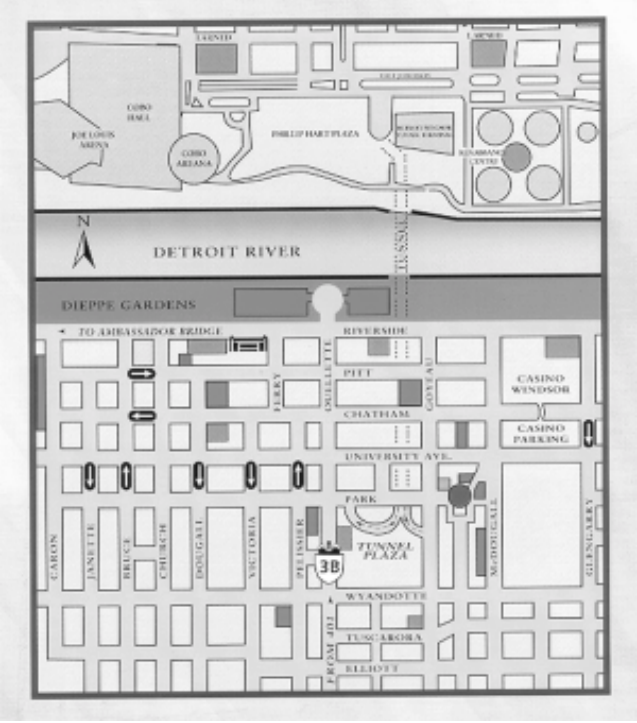
201 Riverside drive west
Windsor, Ontario, Canada N9A 5K4
Phone 519-973-4976

We have the staff and management of the University of Windsor for hosting this meeting, and the members of Windsor universities Student Branches for assisting with the program management.

Map

When you check into the SEM web site for your registration materials, you can also download maps to the Cleary, which show how to reach the building from either the Tunnel or the Bridge. Another copy of the map to the Cleary Centre is shown below.

Note that you will need $2.50 (US) each way to cross the bridge or travel through the tunnel.



Directions from the Ambassador Bridge

After clearing customs, move to the extreme right of the plaza and look for the "Downtown Windsor" sign. Follow the curve (Huron Church Road) and head back toward the river. Turn right on Riverside Drive. The Cleary International Centre is approximately five minutes away on the right.

Directions from the Windsor-Detroit Tunnel

After clearing customs, turn left on Park Street and immediately move into the right lane. Turn right onto Ouellette Avenue (first light). Follow Ouellette Avenue to Riverside Drive. Turn left on Riverside Drive. The Cleary International Centre is one block west on the left.

Directions from the 401

Take Exit 13, "3B" to Tunnel", and proceed north toward the riverfront. Highway 3B is known locally as Dougall Road, which becomes Ouellette Avenue. Continue on Ouellette Avenue all the way to the riverfront. Turn left on Riverside Drive. The Cleary International Centre is one block west on the left.

Parking

Parking has been arranged at the Windsor Municipal Parking garage, connected to the Cleary by an overhead-enclosed passage. The Windsor Municipal Parking garage is located one block south of the Cleary between Pitt and Chatham, along Dougall Street.

Note: Before you leave the meeting, pick up your parking pass so that you will not be charged for parking when you park in the Windsor Municipal Parking garage.

Registration

The next time you visit the SEM web site, you may register directly for the section meeting using our new, on-line registration secure web site. Alternatively, you may down load a copy of the electronic registration form and send it, along with your check, to Sat Basu at the mailing address indicated on the form. By sending in your registration before October 1, 2001 you save $5 on the meeting cost, and Sat will have a preprinted nametag ready for you when you check in at the registration booth. Either way you register; register NOW!

Exhibitors

Also located on the SEM web site are information forms for vendors who wish to have a table at the section meeting. If your company supplies tools or software to electrical engineers, this is your chance to provide direct exposure to your products to many potential customers in a single evening. Just download the 'Vendor Exhibitor' detailed information form from the web site and follow the instructions. Tarek Lahdhiri will be happy to help you make arrangements. His contact information will accompany the forms you download.

Student Tables

If your company has always wanted to sponsor a student table at the Section Meeting, now is your chance. The opportunity to meet and talk with students near graduation about possible careers with your company cannot be over estimated. Look on the web site under "Professional Activities" and download the 'Student Table Sponsorship' forms and follow it's built in instructions.

Technical Sessions

Our chapters are busy arranging a diverse mixture of presentations for our members. The details on each technical presentation are shown on pages 4-5 and on the web site.

Contact Information

If you have any questions, contact Kimball Williams at `k.williams@ieee.org` or 248-354-2854.

We look forward to greeting you all in Windsor on October 24, 2001.

Region 4 PACE Update

With summer drawing to a close, activities will be increasing in the Region and with IEEE-USA. Already, contacts have been made with congressional Representatives and Senators as part of the CARE (Congressional Advocacy Recruitment Effort) Project. This program has a goal to meet with all 535 representatives and Senators sometime through the 107th Congress (2001-2002) to introduce the Electrical and Electronic Engineering profession to these key politicians. Through local members meeting as a constituent with their Senator or Representative, the program emphasizes these local member concerns with supporting documents and position papers available via the web or by calling the Washington, DC office of the IEEE-USA.

The burden on the member is small with only a quick meeting report form, which can be filled in on the web after the meeting takes place. There is more support data for the CARE Project on the web: `http://www.ieeeusa.org/forum/care/`.

You may think that having engineers calling on politicians won't make a difference in our profession but I would suggest that is not the case. I would think that most of our members (definitely more than the population as a whole) vote and members of Congress know that voters control if they get elected. They also most often don't have technical backgrounds so have little understanding of the issues we deal with daily. By being a resource for them, we can fill a vital role in the decisions they must make and hopefully they, or most likely their staff, will contact CARE Project members when new questions in technology or engineering come up.

Please jump in and become active - the members of Congress are real people (contrary to popular belief) and most are hard working and want to provide their districts with able representation. They are approachable and will welcome input from people in their districts. You may find that they don't always vote the way you want them to but if they don't hear from you, the Representative or Senator can't know what you want.

The Region has available some matching monies to help support Sections in Professional Activities projects. These projects can be as far ranging as helping to purchase space on billboards for National Engineers Week to Mathcounts to helping a technical museum produce a middle school electronics class on Saturday mornings. If you think a project could use some help and may fit under the large Professional Activities umbrella, please contact me with some details so I can start the ball rolling.

Russ Kinner
Region 4 PACE Coordinator
`r.kinner@ieee.org`
c/o AVCA Corporation
1684 Woodlands Dr.
Maumee, OH 43537-4057

"Modern Automobiles and FCC " presented by Val Liepa PhD to Defiance Corporation

"Modern Automobiles and FCC " was presented by Val Liepa PhD of the University of Michigan Radiation Laboratory on September 4th 2001 at the Defiance Corporation. The seminar was well attended with 27 people attending. Dr. Liepa discussed the FCC requirements for transmitters and their impact on automotive systems. He discussed a number of different requirements in FCC Part 15. He also discussed their implications on data communication, and RADAR imaging. The requirements that FCC lays out for transmitter bandwidths especially in the higher frequencies creates challenges to the system designer to get enough bandwidth to accurately image objects. Some examples of current technology that used clever schemes to achieve image integrity were discussed. The talk was of general interest to the EMC design community, but presented interesting challenges to the EMC testing community. Accurate testing of the very high frequencies being used in some vehicle radar designs (77 GHz) will present many challenges to the testing community. A general discussion after the formal presentation highlighted these issues.

IEEE/SEM 2001 Fall Section Meeting Registration Form

Complete and mail form with an early registration fee of $30 per person. The registration fee includes technical session attendance and dinner. If this form is for multiple people, you must provide full contact information for one person plus Name, Technical Session Preference, and Meal Selection for each additional registrant. ***Please make check payable to IEEE/SEM*** and forward along with a completed registration form to: **Sat Basu, PO Box 4928, Troy, MI 48099**.

There will be express check in for pre-registered attendees.

Please type or print:

Name: _____
Company:_____
Address: _____
City/State/Zip: _____
Phone #: _____ [ ] H [ ] W

Technical Session # _____ (* Select from list at right, 0 for none)

Meal Selection: [ ] None, [ ] Chicken, [ ] Vegetarian

Total amount enclosed: $_____ Registration ($30 per person)

[ ] Check enclosed in US dollars [ ]Visa [ ]Master Card

Credit Card Number _____
Expiration Date _____
Signature _____
Credit card registrations are non-refundable after Oct. 25

Fees:	**Amount**	**Deadline**
Registration:	$30 US	Received by mail before October 1
Late registration:	$35 US	Received by 5:00pm October 1
Contact:		Sat Basu at 313-235-6523 or satbasu@ieee.org
Student branch:	$15 US	Register and pay through student branch by October 15
Contact:		Edzko Smid at 248-370-2082 or smid@oakland.edu

Technical Sessions: (Indicate selection by #):

1. **Chapter I & Chapter III** "Rapid Protoyping of Application Specific Signal Processors"
2. **Chapter II** "Vehicle Battery"
3. **Chapter IV & Chapter VI** "New developments in magnetostrictive sensors and their automotive applications"
5. **Chapter V** "Flicker the Dragon – A Look at a Computer-Animated Dragon"
6. **Chapter VII** "Power Monitoring in a Deregulated Environment"
7. **Chapter VIII** "Lightning Effects, Protection and Modeling"
8. **Chapter X** "Telematics"
9. **Student Track** "Creativity, Innovation, and Problem Solving: An Introduction"

Additional Registrants ***(Non-Students Only)*** Name	Company	* Tech. Session #	Meal Selection (one only) None	Chicken	Vegetarian	Fee $30

Periodical Postage Paid at Plymouth, Michigan

IEEE
Networking the World™

ISO (International Organization for Standardizations) global EMC test standards development effort (immunity to EM disturbances) for vehicle and components

A presentation will be held at Eaton Innovation Center on October 9, 2001. The time is 6 pm to 8 pm with refreshments starting at 5:30 pm.

Abstract

The history of the EMC test standards development within ISO (TC22/SC3/WG3) is discussed. The development effort is focused on immunity of vehicle and components to conducted and radiated Electromagnetic (EM) disturbances. The current and future work items are presented. Current test standards are summarized and presented.

Bio:

Kin P, Moy currently is the department head for EMC Technology and Data Communication Systems at Packard Electric Systems, Delphi Automotive Systems located in Warren, Ohio.

He has been involved with EMC standards activities for over 20 years. Presently, he is chairman of the SAE United States Technical Advisory Group (USTAG) and chief delegate to ISO TC22/SC3/WG3 as well as vice chairman of the SAE EMI committee. He also serves on the SAE EMR committee, 42V Advisory Committee, USTAG for SC3, and WG 13 & 14.

He received his Bachelor and Masters degree in Electrical Engineering from Youngstown State University.