



# IEEE/SEM Fall '98 Section Meeting Program

**Date:** Wednesday, October 28

**Location:** The McGregor Memorial Conference Center on the campus of Wayne State University, Detroit, MI.

## Program

- 5:30 p.m. Registration & Check-In opens.
- 5:45-6:45 p.m. Concurrent technical meetings, pages 4-7
- 6:30-7:05 p.m. Student Branch and Vendor Exhibits on display. Social period with cash bar.
- 7:15 p.m. Check-In closes.
- 7:05-7:45 p.m. Dinner
- 7:45-8:45 p.m. Featured Speaker: Dr. Fred Dietrich.

## How to Register:

Mail in the registration form on page 11 by October 16, 1998. Late registrations (full price) are accepted by phone through October 23, 1998. There is no fee for attending technical sessions only but pre-registration is requested to aid in room assignments. Dinner is not guaranteed to attendees registering the night of the event.

**See page 11 for full registration information.**

## Student Registration:

Students must register through their student branch to receive discounted prices. Student branch signup procedures are on the section's web page.

**Contact:** Jim Woodyard, 313-577-3758

*The meeting will end at approximately 9:00 p.m.*

## Fall Section Meeting Featured Speaker October 28<sup>th</sup> 1998

*by Jim Woodyard, IEEE/SEM Vice Chair*

The IEEE/SEM Fall '98 Section meeting will be held on 28<sup>th</sup> October 1998, at Wayne State University in the McGregor Memorial Conference Center. It will consist of nine parallel technical sessions and a student track meeting. There will be a variety of interesting topics selected to meet the timely interests of the engineering community.

Starting at 5:45PM, there will be presentations on diverse technologies, such as *communication,*

*surface microscopy, web-based technology in teaching, vehicle navigation, electrical systems for the new midfield terminal at Detroit Metropolitan Airport, digital signal processing, global EMC requirements, brand management and virtual laboratories.* The technical sessions are described on pages 4 through 7. Participants will be able to view the student branch activities and vendor exhibits during the social period starting at 6:30PM.

Following dinner, there will be a multi-media presentation entitled: "*The Globalstar Satellite-Cellular Communication Satellite system.*" The presenter will be **Dr. Fred Dietrich of Globalstar**, San Jose, CA. The presentation will include a brief review of competing satellite-based systems as well as a general discussion of the Globalstar system. Several illustrations of hardware and a video of



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WAVELENGTHS

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## Thanks to A&A Volunteers

The IEEE Southeastern Michigan Section would like to thank the volunteers who were part of the Senior Membership approval process at the Admission and Advancement (A&A) Committee meeting this summer on June 27. These volunteers helped out all day Saturday reviewing Senior Member Applications. These volunteers include:

Duncan Baker	Charles Hickman
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Don Bramlett	Wayne Middleton
Bill Carter	Bill Moylan
Celia Desmond	Donnie Reinhard
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Dave Green	Carlton Speck
James Harvey	Orlin Trapp
Eric Herz	Al Zeller
Dan Jackson	

We would also like to extend special gratitude to James Rowland for his dedication as A&A committee chair this year and to Maria D'Alessio from IEEE Staff for administering the meeting and working so diligently to ensure that everything ran smoothly.

Check out [www.ieee.org/ra/md](http://www.ieee.org/ra/md) for more information on this committee, Senior Membership and many other programs. It is a great source for general membership information!

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**Please Contact: Stephen W. Talbot, P.E. Vice President**



## 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)

### EDITORS

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1 page	\$4000	\$650

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### POSTMASTER Send address changes to:

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### POSTAL INFORMATION NOTICE

The newsletter of the Southeastern Michigan Section of IEEE, "Wavelengths", (USPS 878-660), is published monthly 8 times per year except June, July, August & December by the Institute of Electrical and Electronics Engineers, Inc. Headquarters: 345 East 47<sup>th</sup> Street, New York, NY 10017-2394. \$1.00 per member, per year (included in annual dues) is designated for each member of the Southeastern Michigan Section.

Periodicals Postage Paid at New York, NY and at additional mailing offices.

## Visit the following IEEE World Wide Web sites:

Section:	<a href="http://www.ieee.org/regional/section/se_michigan">www.ieee.org/regional/section/se_michigan</a>
Computer Chapter:	<a href="http://www.egr.msu.edu/ieeesem/chapv/">www.egr.msu.edu/ieeesem/chapv/</a>
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IEEE Region 4:	<a href="http://www.ieee.org/regional/r4/">www.ieee.org/regional/r4/</a>



## Calendar of Events

Monday October 5	Event: Location: Sponsor: Contact:	<b>Executive Committee Meeting</b> EATON Corporation, 26201 Northwestern Highway, Southfield IEEE/SEM Kimball Williams, 248-354-2845
Thursday October 8	Topic: Speaker: Time: Location: Sponsor: Contact:	<b>Collaborative Classrooms in Cyberspace</b> Dr. Douglas Short 3:30 p.m. 201 Dodge Hall, Oakland University, Rochester Oakland University School of Engineering and Computer Science, 248-370-2212
October 16	Event:	<b>Deadline to register for Fall Section Meeting</b>
Sunday October 17	Event: Time: Location: Registration: Contact: Comments:	<b>IEEE-USA National Consulting Workshop</b> 8:30 a.m. - 4 p.m. Chicago Marriott-Schamburg \$65 for IEEE members; \$75 for non-IEEE members Dr. Gary L. Blank, 847-464-4081 (fax) or garbon@ix.netcom.com This workshop is designed for practicing or aspiring consultants in the electrotechnology and information-technology fields. There is an informal concurrent program available for spouses/companions which includes shopping and touring in Chicago.
Wednesday October 21	Meeting: Time: Location: Contact: Comments:	<b>Senior Member Application Info Meeting</b> 7:00 p.m. (~1 hour meeting) Link Engineering Company 43855 Plymouth Oaks Blvd., Plymouth, MI Head South on Sheldon Rd from M-14 (1st exit West of I-275) & take 1 <sup>st</sup> left after M-14 overpass, Link is near end of road. Mark Hunter, m.hunter@ieee.org, 248-588-0355 Come learn how to apply for Senior Membership
Wednesday October 28	Event: Time: Location: Contact: Comment:	<b>IEEE/SEM Fall Section Meeting</b> Check in opens at 5:30 p.m. McGregor Memorial Conference Center on the campus of Wayne State University Jim Woodyard, 313-577-3758 woodyard@eng.wayne.edu See article on pages 1 and 4. Be sure to register using the form on page 11!
November (Date TBD)	Meeting: Time: Location: Contact:	<b>Executive Committee</b> Dinner at 6 p.m., meeting 6:30 p.m. Eaton Corp., 26201 Northwestern Highway, Southfield Kimball Williams, 248-354-2845

Wavelengths

Chapter I: Circuits & Signal Processing

**The Speaker:** Professor M. I. Ismail.

**Affiliation:** Department of Electrical Engineering, Ohio State University, Columbus, OH



**Title of Presentation:** Digitally programmable RF Front Ends: Towards Universal Mobile Communication Service

**Abstract:** The presentation will discuss the evolution of the wireless industry and focus on transceiver architectures and circuit design techniques used in modern cost effective mobile communication systems. Architectures and design techniques suitable for multi-standard, low power transceivers that achieve higher levels of integration will be presented. The techniques exploit recent developments in sub-micron BiCMOS and CMOS VLSI technologies together with innovative mixed analog/digital design methodologies whereby the control of the analog front end is effected directly by digital signals generated from the DSP parts in the baseband. They will pave the way towards efficient implementation of third generation Universal Mobile Telephone Service and drive an increasingly competitive broadband wireless market even further.

**Biography of the speaker:** Dr. Mohammed Ismail is Professor of Electrical Engineering and Director of the Analog VLSI Laboratory at the Ohio State University. He has held positions in both industry and academia and has served as a corporate consultant to many companies in the US and overseas. He co-founded Micrys, Inc. a commercial VLSI design company. Dr. Ismail has numerous publications, books and patents in the areas of analog and mixed-signal VLSI. He gives courses to industry in the areas of low voltage low power VLSI, physical and statistical design of VLSI circuits and RF front ends for wireless applications. He is a Fellow of IEEE.

Chapter II: Vehicular Technology

**Speaker:** Professor Subra Ganesan

**Affiliation:** Department of Science and Engineering, Oakland Univ., Rochester, MI

**Title of Presentation:** Current Vehicle Navigation Programs Developed by Siemens

**Abstract:** The talk will cover the advancements Digital Signal Processing Microprocessors(DSP) and Electric Power Steering(EPS).

DSP processors are designed for high performance real time applications. The TMS F240 DSP is capable of producing multiple PWM output signals and is ideal for motor control applications. The talk on DSP will include a quick description of TMS F240 DSP processor and comparison of the TMS F240 DSP with the traditional 16/32 bit microcontrollers.

EPS reduces the amount of steering effort by directly applying the output from an electric motor to the automotive steering system. The system consists of vehicle speed sensors, torque sensors, angular velocity sensor, an electronic control unit

(ECU), drive unit, and a motor. The motor is controlled by DSP. By using inertia , damping and friction compensation, an EPS system saves space and improves vehicle fuel economy. A reduction in fuel consumption is achieved because it is now possible to supply power proportional to the wheel turn angle. This is not true in hydraulic systems as the pump keeps on operating irrespective of whether the wheel is turned or not. The EPS system has to control medium to large torque motors based on the size and weight of the vehicle.

The talk on EPS will cover advantages, general requirements, motor requirements, and challenges in the implementation of Electrical Power Steering (EPS). Issues related to hardware, software and safety will also be presented.

**Biography:** Dr. Subra Ganesan is a professor in the Department of Computer Science and Engineering, Oakland University, Rochester, MI. He has worked at Western Michigan University, MI; Concordia University, Montreal, Canada; Ruhr University, Germany and National Aerospace Laboratory, India before joining Oakland University. He worked at Texas Instruments, DSP group, Houston, TX.,



while on sabbatical. At Texas Instruments, he was a member of a parallel DSP system design team for video compression. Dr. Ganesan has designed many embedded real time system for industry and presented one-day tutorials on DSP applications at GM, Chrysler and NSF Optic Workshops (1994-98). He co-authored a book on DSP C5X (with software and hardware module). He is a senior member of IEEE, member of ACM and ISPE.

Chapter III: Comm. & Aero. Electronics  
Chapter VI: Geoscience & Remote Sensing

**Speaker:** Dr. Fred Dietrich

**Affiliation:** Globalstar, San Jose, CA

**Title of presentation :** Cellular Service using Globalstar Satellite System

**Abstract:** The talk will consists of technical details of the Globalstar Satellite



Globalstar's Inaugural Launch Feb. 14, 1998

System for cellular service, the use of Code Division Multiple Access (CDMA) as the basic modulation scheme, the application of diversity for signal quality, power control schemes, and complex phased arrays (on the satellite) illustration in detail.



**Biography :** Fred Dietrich (Life SM '98) received his B.S.E.E. degree from the Missouri School of Mines, an M.S.E.E. from Purdue University, and a Ph.D. from Ohio State University. He is an Associate Fellow in the AIAA.

Dr. Dietrich worked at both the Ohio State University Radio Observatory and the Electro Science Laboratory, while he was enrolled there. He has experience at Sperry Gyroscope,

Collins Radio, North American-Rockwell, and for the past 29 years, he has held positions with Philco Ford/Ford Aerospace/Space Systems Loral/Globalstar L.P.

Design of antennas for satellites and for ground stations, communications satellite payload design, and complete satellite design have been the focus of his activities. He is currently responsible for developing satellite and system designs for the second generation of Globalstar, having been responsible for the system specification for the current system for the past 3 years. He has had a part-time RF/antenna/satellite consulting business for the past 16 years, F.D. Engineering.

#### Chapter IV: Trident

**Speaker:** Professor Virginia Ayres

**Affiliations:** Michigan State University, East Lansing, MI

**Title of Presentation:** The Use of Surface Microscopy for Electronics Development

**Abstract:** Diamond should be an important electronics material for hostile environment applications. It possesses a wide natural band gap and high carrier mobilities. Its thermal conductivity is up to four times that of b-silicon carbide and thirteen times that of silicon. It can act as an insulator when undoped and a semiconductor when doped. The development of thin film growth techniques through vapor deposition methods has provided an economically attractive alternative to the cutting and polishing of single crystal diamond. Yet the actual electronic behavior of diamond has raised many practical and fundamental research issues. For polycrystalline diamond thin films, conduction seems to occur by a combination of grain boundary, hopping and bulk diamond mechanisms, whose relative proportions shift as a function of many variables: grain size, film thickness, any preferred crystal orientation (texture), non-diamond carbon inclusions and doping.

We are currently investigating the electronic properties of a series of textured diamond thin films grown in the presence of nitrogen using dc and ac measurements in combination with Electromagnetic Force Microscopy (EFM), a scanning probe microscope technique. Our investigations have already yielded some surprising results. The latest results from this ongoing investigation will be presented at the talk.



**Biography:** Dr. Virginia Ayres was born in Camden, NJ. She received her B. A. degree in physics from Johns Hopkins University, and her Ph.D. in physics from Purdue University in 1985. She joined the Department of Electrical and Computer Engineering at Michigan State University as an Associate Professor in 1997. Prior to this, she was a research physicist with the NSWC White Oak Laboratory where her research included both plasma science and surface science. Her current research interests are in the electronic and thermal properties of diamond and related materials, and in the development of these materials for device applications.

#### Chapter V: Computer

**Speaker:** Professor Charles Severance

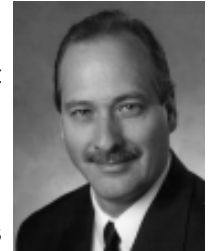
**Affiliations :** Michigan State University, East Lansing, MI

**Title of Presentation:** Experiences Teaching Virtual Lectures Using the World-Wide Web

**Abstract:** This talk will cover the experiences of teaching a course at MSU, EGR124, that employed the world-wide-web for the exclusive delivery of lecture material. Streaming video, audio and PowerPoint slides were used to simulate the lecture experience over the internet. Over the last two years, students from all over the world have taken this class without ever stepping foot on the campus. This talk will cover what works and what doesn't work in this type of class. A demonstration of the techniques developed for use in web-based lectures will be presented.

**Biography:** Dr. Charles Severance is currently the director for computing services for the College of Engineering and a Professor in the Computer Science department at Michigan State University. He is the author of "High Performance Computing", Second edition, published

by O'Riely and Associates. He also Co-host of a television show called "Nothing but Net" produced by Media One. The first courses in the country that delivered all the lectures using streaming video over a standard mode were developed by Dr. Severance. He edits a monthly column in the magazine "IEEE Computer on computer standards." Dr. Severance has a B.S., M.S., and Ph.D. in computer Science from Michigan State University.



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Chapter VII: Power Eng. & Ind. Apps.

**Speaker:** Mr. Tony Tomaino

**Affiliations:** Smith, Hinchman & Grylls

**Title of Presentation:** An Overview of the Midfield Terminal at Detroit Metropolitan Airport

**Abstract:** The presentation will include an overview of the electrical systems for the Northwest Airlines midfield terminal project at the Detroit Metropolitan Airport. Power distribution, lighting, telecommunications, and emergency electrical systems will be discussed as well as general information related to the operation and special features of the facility.

**Biography:** Anthony F. Tomaino P.E. graduated from the University of Dayton with a B.S.E.E. Degree and has been in the engineering profession for over 34 years.

His experience encompasses a wide range of projects for which he was responsible including medium and low voltage power distribution, lighting, control, fire alarm, access control, CCTV, and communication systems. His projects have been centered around manufacturing and assembly facilities, steel mills, foundries, research and development laboratories, office buildings and airports. He is a member of IEEE.

Chapter VIII: EMC

**Speaker:** Donald R. Bush, PE

**Affiliations:** dBi

**Title of Presentation:** Global EMC Requirements

**Abstract:** In 1934, what is now the Federal Communications Commission was formed. In 1949, the German High-frequency law was passed. Many countries have since Enacted or promulgated laws and rules to regulate EMI and Immunity. The technical requirements are relatively easy to understand and follow. However, the bureaucratic ramifications are much more complex. This talk will discuss the technical issues and will comment on the bureaucracy.

**Biography:** Donald Rush worked in or managed the EMC lab at IBM Lexington, KY, from 1965 until its acquisition by Lexmark International in 1991. He worked for Lexmark from 1991 until March, 1996, at which time he founded dBi Corporation and continued in the EMC profession. Don received the B.S.E.E. and M.S.E.E. Degrees from the University of Louisville, and is a registered Professional Engineer and NARTE certified EMC engineer. Mr. Rush has authored and presented eleven papers on EMC subjects, and holds one patent. His company, dBi, is an A2LA accredited EMC test lab.



Chapter IX: Power & Ind. Electronics

**Speakers:** Mr. Greg Wahl, Technical Sales DSP Product Specialist and Mr. Darrell Kolomyski, Member of Technical Staff

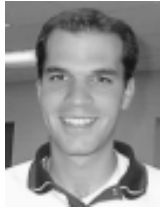
**Affiliations:** Texas Instruments, Inc.

**Title of Presentation:** DSP in Industrial Applications



**Abstract:** DSP, traditionally the scope of high end applications, is penetrating the customary spectrum of microcontrollers in industrial applications. DSP's have begun to emerge in motor control, UPS systems, automotive, and general control devices. This transition is being driven by the continual decrease in DSP pricing, increased demand of industrial processing, and DSP peripherals targeted at the industrial control market. The presentation will focus on key algorithms to the industrial market and how DSP's cost-effectively handle these algorithms.

**Biography:** Greg Wahl graduated from Penn State University, BSEE '95, and has been working with TI for three years in DSP Marketing and Michigan Mass Market Sales. His interests are: Stock Market, Ann Arbor and Sports.



Darrell J. Kolomyski has worked for Texas Instruments semiconductor division since 1995 as a member of Technical



Staff and Field Application Specialist for DSP and Microcontroller Applications. Prior to joining TI, he was a Senior Engineer for Automotive Electronics at United Technologies Automotive (UTA). He received the B.S.E.E. in 1988 from Oakland University. Hobbies and interests include family activities, fishing, hunting and gardening.

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**Speaker:** Mr. Dennis Ephlin

**Affiliations:** Price Waterhouse Coopers Management Consulting Services, Automotive Industry Practice

**Title of Presentation:** Brand Management

**Abstract:** The context of the presentation will include discussion about integrating brand management throughout the entire corporation and throughout the entire product development cycle. The presentation will also focus on the changing “supply chain” and how “brand” is the only sustainable competitive advantage against changing internal and external forces..

**Biography:** Dennis Ephlin is currently a Senior Consultant at Price waterhouse Coopers, Management Consulting Services, Automotive Industry Practice. His consulting work over the past year has included an engagement on innovation, brand management, and corporate vision strategies. Prior to coming to Price waterhouse Coopers in August of 1997, he spent almost 9 years at GM. His last assignment was with Cadillac where he was the Assistant Brand Manager in charge of Future Vehicles.



to the everyday worker and student. Virtual copies of manufacturing equipment, facilities and operations can now help extend the hands-on experiences that may not otherwise be possible due to cost, safety or logistics. Students can have a virtual copy of an F-16 fighter plane on hand to practice troubleshooting skills, or explore and evaluate physics and math concepts using realistic models of machines and laboratory equipment.

Some very focused examples of simulation in the classroom are being developed in a series of grant activities that explores the benefits of using simulated CNC machines to teach operations and programming for entry level students. This presentation will look at several case studies to show how virtual labs are impacting the classrooms today, and how they might be designed as an integral part of instruction in the future. Simulation technology's role as a compliment to, not replacement for other classroom tools will be emphasized.

**Biography:** Victor Rhoder is the Director of Education and Training at Deneb Robotics, Inc. His responsibilities include developing partnerships with education and training solution providers, creating new opportunities for simulation as a teaching platform and creating opportunities to enhance Deneb's software solutions with improvements targeting this application area. Victor has previously acted as the Director of Operations and Program Manager while at Deneb. Prior to working at Deneb, he developed a strong background in manufacturing automation and product analysis while working at Gilreath Manufacturing as the Engineering Systems Manager and performing finite element analysis and design evaluation at TRW as a product engineer. His career started supporting the integration of robotic, machine vision and laser welding applications while at the General Motors Technical Center, as a production engineer. Victor holds a B.A. in Mechanical Engineering from Cornell University and an M.S. in Manufacturing Engineering from Carnegie-Mellon University.

### Student Track

**Speaker:** Mr. Victor Rhoder

**Affiliations:** Deneb Robotics

**Title of Presentation:** Simulation in the Classroom-Designing Virtual Labs

**Abstract:** The use of simulation technologies for training has a long history. The most commonly known applications are in the areas of pilot flight training and electronic war-game simulations. With the dramatic reduction in hardware costs and the advancements in software solutions, simulation is now accessible

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## Professional Activities at Spring Section Meeting

### Student Table Sponsorship:

Student tables are a great way for companies to meet with enthusiastic entry level EE's over dinner to talk about recruitment activities.

### University Showcase:

We invite the institutions with electrical engineering programs within our section to set up exhibits highlighting their research, educational programs, graduate study opportunities or EE students.

### Vendor Exhibits:

Vendors offering a variety of EE related services or employment opportunities will be on hand. Visit these tables or host one yourself.

### Participation:

Contact Tarek Lahdhiri, 519-253-4232x3436 to learn more about sponsoring a student table or participating in the showcase or exhibits.

## What is an E-mail Alias?

All IEEE members may now obtain an [iee.org](http://iee.org) alias free of charge. When you sign up for an alias there is not a second mail account created that you have to check. You can also continue to use your original e-mail address. When someone sends you e-mail using your alias, the e-mail is automatically routed to your regular e-mail address. It does not affect the way you check e-mail at all. There are several major advantages of an alias. If your e-mail address changes then

you simply change where your alias points so you don't have to tell everybody that your e-mail changed. E-mail that is sent to an IEEE alias is also automatically scanned for viruses before it is forwarded to your regular e-mail address. To find out more about the service and to sign up for an IEEE alias visit [www.ieee.org/eleccomm](http://www.ieee.org/eleccomm). A [computer.org](http://computer.org) alias is also available to Computer Society members.

## Helping volunteers by working with other sections

by Mark Hunter, Region 4 Membership Development Committee Chair

I have turned over the function of Section Membership Director to Dr. Maurice Snyder, [snyder@adi.com](mailto:snyder@adi.com). Together with Dr. Snyder, I hope to continue helping the section towards a number of membership goals as his assistant. Of course one of these goals is recruiting new members but serving our current members is also a major part of the Membership Committee's responsibility. You will hear more about our specific goals and about programs supporting them throughout the year. We don't plan to attain these goals by ourselves. We will be calling upon members throughout the year to help us make your IEEE membership work harder for you locally. The section needs volunteers who can help out with a single event or who can offer a few hours each month. Volunteering for even a single event can introduce you to many people and open up new opportunities.

A problem that section directors and other volunteers have sometimes faced in the past is that they must implement a program or run an event without much information to start with. Getting helpful information to the proper volunteers can greatly reduce the amount of effort required for a successful



program. Other sections are facing the same problems we are and they are recreating similar programs to serve their members. One way that I plan to help our section is by working and sharing ideas with other sections as the Region 4 Membership Committee Chair. Harry Bostic, the IEEE Region 4 Director, asked me to fill this position last January. One of my first tasks was attending the annual Society and Region Membership Development Retreat. Representative from each society and region attend this retreat to share ideas, learn about new

programs and determine the course of future programs. I exchanged a great deal of information with other people at the retreat and found resources to draw upon from all over the world. I was also able to give a presentation at the retreat on the Member Recover a Member trial program that our section was part of last year. This fall I am attending weekend conferences in Region 4 at Chicago and Toledo as well as Region 7 at Quebec. Part of these weekends will be sharing ideas and determining how to distribute the ideas to the sections. I have already been introduced to many programs and resources that many sections within the region may never have been exposed to.

Of course our section is not limited to the programs sent out by IEEE headquarters or the region. Many of the programs now being promoted by IEEE headquarters began at the section level. In addition to implementing the same programs that every other section does, we should strive to initiate creative new programs and events that we can then share with other sections. To do this, we need you for ideas and as a volunteer. **IEEE volunteers are the people who get the most out of their membership.** To volunteer, contact the section's new volunteer coordinator, David Horvath at [DAHOrvath@aol.com](mailto:DAHOrvath@aol.com), 734-930-7500.

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## The IEEE/SEM Section

# “Your Local IEEE Connection to Networking with the World “

By Don C. Bramlett, PE, Section Advisor

The new theme of the IEEE is “*Networking the World.*” You will see this short phrase on all of the literature and correspondence from the IEEE. As alluded to in the new membership application information, the IEEE offers a sense of community worldwide by providing opportunities for engineers to share mutual professional, technical and personal interests with others who enjoy similar interests around the world.



When you become a member of the IEEE, you automatically become a member of your local IEEE Section; one of nearly 300 local Sections in the 10 geographical IEEE Regions around the world. It has been said by some that the local Section is the IEEE for many if not most IEEE members; and I believe that is the case. The local Section provides the best opportunity for IEEE members to see a face that represents the IEEE; not just words on a page in a magazine or on an e-mail message, or a distant voice on the phone.

The leadership of the IEEE Southeastern Michigan Section (IEEE/SEM Section), your local IEEE Section, wants to successfully fulfill this role as much as reasonably possible. The section consists of 50+ actively involved Section and Chapter officers, who volunteer to provide the needed services, programs and benefits to the IEEE members within its boundaries, the Southeastern Michigan and Essex County, Ontario, Canada.

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The section consists of *ten* local entities (Chapters of IEEE Technical Societies). These ten chapters represent the interest of members of 18 out of the 37 Technical Societies in IEEE. The Section tries to also adequately represent the interests of the members of the remaining 19 Technical Societies, as well as support the broader professional growth of its members.

The IEEE/SEM Section newsletter, *WAVELENGTHS*, and information on the IEEE/SEM Section *website* at URL:

[www.ieee.org/regional/section/se\\_michigan](http://www.ieee.org/regional/section/se_michigan) are the two main methods currently being used to publicize the programs, activities and meetings for IEEE members within the Section.

The Section leadership wants all of the IEEE/SEM Section members to feel welcome to attend Section and Chapter programs. We would like to see all of the nearly 4000 IEEE/SEM members, whether in industry, academia or IEEE Student Branch, attend a meeting for their technical and professional development.

We will would like to encourage and call on all section members to come to an activity, and possibly return for other programs. That will gives us a sense that we are meeting the needs of the local IEEE members. You too will be glad that you took this first step in *networking with the world.*

You are also welcome to volunteer to help with the operation of the Section and its Chapters. You can help at a meeting, spend a morning as a judge at the Science Fair or Future City Competition, run for an office, or serve as a member of a committee of interest to you. You will be glad to be a part of this dynamic team.

If you have any questions, suggestions pertaining to the Section, its Chapters, programs or activities, I invite you to contact me.

*My office phone number is (313)-235-7549*

*My e-mail address is [d.bramlett@ieee.org](mailto:d.bramlett@ieee.org).*

## The Entrepreneurial Skills Seminar, Sponsored by IEEE Foundation

Six one-hour tapes and a transcription booklet of the presentation materials and the speakers' discussion of each topic are included in the package of "The Entrepreneurial Skills Seminar" from the IEEE Foundation. However, don't be fooled by the title. This seminar is not intended to teach entrepreneurial skills, or any of the associated, but necessary, skills needed for entrepreneurial success.

The seminar is intended only to convince the viewer of the necessity of competence in such areas as, Communications (Speaking, Presentations, Writing), Marketing, Business Finance, a good Business Plan, etc. The approach to this subject is through presenting the experiences of successful 'small' business entrepreneurial engineers (one company was earning \$13.4 Million Dollars after 4 years in business). Each one emphasizes the need for the 'soft' skills not as an 'extra' skill, but as an absolute requirement for small business success. As one presenter put it, "If you can't do it, hire someone who can."...

One of the most useful aspects of this seminar might be the Appendix, which lists seven and one half pages of reference materials. These can be used to help the aspiring independent business engineer acquire the 'soft' skills that the seminar has been intending to convince the viewer they need.

Two of the tapes stand out from the rest as interesting, and for completely different reasons.

Tape 2, "The Experiences of a Software Entrepreneur: From Start-Up to Success" by Richard Holcomb, founder and Chief Executive Officer of Q+E Software – HAHT Systems, Raleigh, North Carolina is a humorous and enlightening discussion of the non-technical, practical aspects of a small (two person) business startup. This particular tape seemed to distill the best of the discussions from most of the other speakers into a one presentation. If you want have time to view only one tape, make it this one.

Tape 5, "An Entrepreneurial Learning Path" by Dr. Thomas Miller, Assistant Dean, College of Engineering, North Carolina State University, Raleigh, North Carolina gives the viewer some insights into the operation of the university program that sponsored the speakers shown in the seminar. This talk also may provide some insights into one possible future of engineering education. The process in place at NCSU involves creating on campus 'companies' composed of seniors, who function as the leadership of the group and underclassmen, juniors, sophomores and freshmen that contribute the technical skills appropriate to their education levels. The 'companies' remain in existence for multiple terms to provide the students with the experience of long-term team operations.

**Is it worth your time to view this seminar series? If you plan to start your own business, yes!**

Contact Kimball Williams at 248-354-2845, k.williams@ieee.org for more information.

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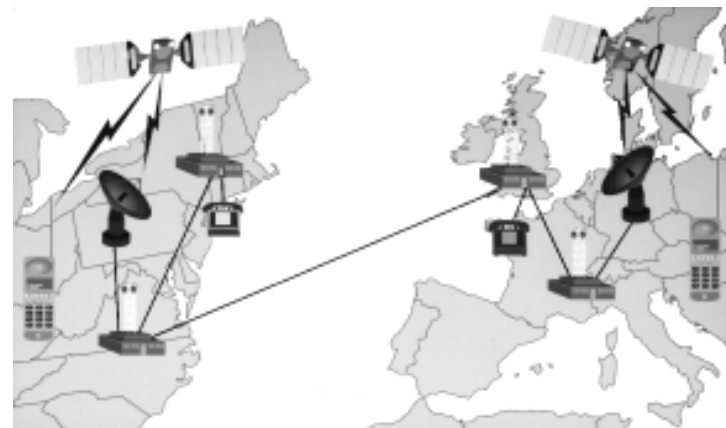
### ...Featured Speaker

launching a communication satellite into low-earth orbit will be presented. Dr Dietrich(Life SM'98) received his B.S.E.E. degree from Missouri Schools of Mines, an M.S.E.E. from Purdue University, and a Ph.D. from Ohio State University. He is an a Fellow in the AIAA

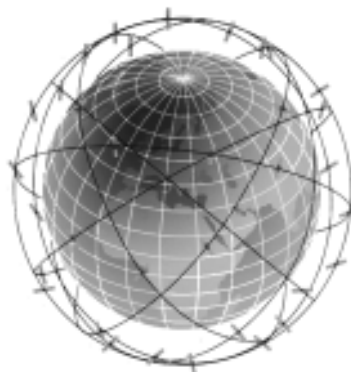
The meeting is co-sponsored by IEEE/SEM, College of Engineering at Wayne State University and Globalstar. The program committee has attempted to develop a meeting to meet your professional needs. The featured presentation will be presented at the general technical interest level. We invite you and your friends to register and participate in the meeting. Additional meeting information, directions to Wayne State University and a registration form are available in this newsletter

and on the IEEE/SEM Web site at URL : [www.ieee.org/regional/section/se\\_michigan](http://www.ieee.org/regional/section/se_michigan).

**Support your program committee by attending the meeting and registering early.** Please Contact *Jim Woodyard*(313-577-3758, [woodyard@eng.wayne.edu](mailto:woodyard@eng.wayne.edu)) for any additional information, and with suggestions to improve programs by your colleagues.



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## IEEE/SEM Fall '98 Meeting Registration Form

Complete and mail form with an early registration fee of \$25 per person. The registration fee includes technical session attendance and dinner. Complete this form for each person attending. Please make check payable to IEEE/SEM and forward along with a completed registration form to: **Graeme Rogerson, MIRA North America, 47523 Clipper St., Plymouth, MI 48170.**

Fee Type	Amount	Deadline
Registration	\$25	Received by 5 p.m. 10/16/98.
Late Registration	\$30	Phone call to Graeme Rogerson, 734-455-8200, by 5 p.m. 10/23/98.
Student Registration	\$12	Register & pay through student branch.

*There will be express check in for registered attendees.*

**Please type or print:**

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City/State/ZIP: \_\_\_\_\_  
 Phone Number: \_\_\_\_\_ [ ] H [ ] W  
 Company: \_\_\_\_\_  
 Amount enclosed: \$\_\_\_\_\_ Early registration (\$25 per person)

Indicate your choice of meal:  
 Regular - Chicken Marsala     Vegetarian

Indicate which technical session you wish to attend:

- \_\_\_\_\_ Chapter I: Circuits & Signal Processing  
     *"Digitally programmable RF Front Ends"*
- \_\_\_\_\_ Chapter II: Vehicular Technology  
     *"Current Vehicle Navigation Programs"*
- \_\_\_\_\_ Chapter III: Comm. and Chapter VI: Geoscience & Remote Sensing  
     *"Cellular Service using Globalstar Satellite System"*
- \_\_\_\_\_ Chapter IV: Trident  
     *"The Use of Surface Microscopy for Electronics Development"*
- \_\_\_\_\_ Chapter V: Computer  
     *"Teaching Courses Using Video on the World-Wide Web"*
- \_\_\_\_\_ Chapter VII: Power Eng. & Ind. Apps.  
     *"Overview of Midfield Terminal at Detroit Metropolitan Airport"*
- \_\_\_\_\_ Chapter VIII: EMC  
     *"Global EMC Requirements"*
- \_\_\_\_\_ Chapter IX: Power & Ind. Electronics  
     *"DSP in Industrial Applications"*
- \_\_\_\_\_ Chapter X: Engineering Management  
     *"Brand Management"*
- \_\_\_\_\_ Student Track  
     *"Simulation in the Classroom-Designing Virtual Labs"*

### Directions to McGregor Memorial Conference Center Located on the Campus of Wayne State University

The McGregor Memorial Conference Center is located on the main campus of Wayne State University, southwest of the corner of Palmer and Cass.

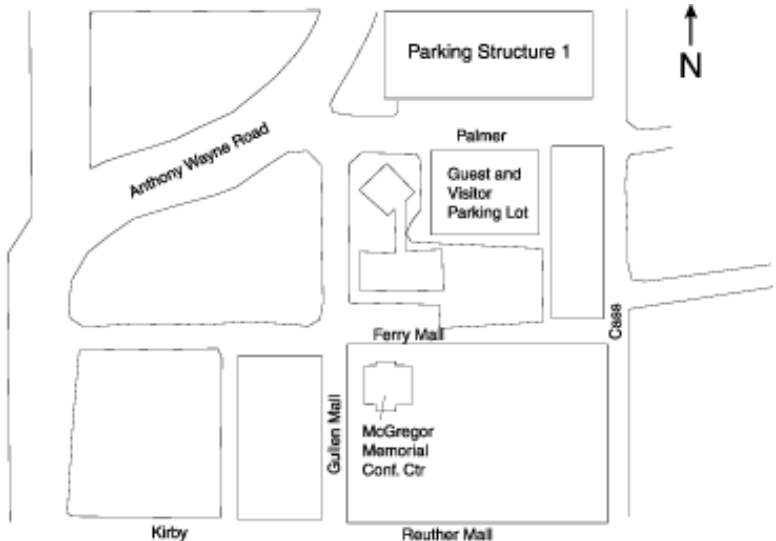
The conference center is readily accessible from Detroit's freeways.

**From I-94:** Exit at the Woodward exit. Take John R south to Palmer. Proceed west on Palmer across Woodward and Cass. The parking areas are west of Cass on Palmer.

**From I-75:** Exit at Warren Avenue. Proceed west to Woodward. Turn north onto Woodward, proceed to Palmer. Turn west onto Palmer. Proceed across Cass. The parking areas are west of Cass on Palmer.

**From US 10 (the Lodge):** Exit Warren Avenue. Proceed east on Warren to Cass. Turn north onto Cass, proceed to Palmer. Turn west onto Palmer. The parking areas are west of Cass on Palmer.

#### Parking



Parking will be in the Guest and Visitors Parking Lot and Parking Structure No. 1. Both parking areas are located west of Cass as shown on the map. IEEE/SEM meeting signs will be located in front of the parking areas. Wayne State University Hosts will be wearing dark blue T-shirts bearing the IEEE logo. They will be in front of the parking areas, along the walkway to the McGregor Memorial Conference Center, and in the Center to assist you in finding your way to the meetings. Hosts will also be available after the meeting to help you find your way to your car and use the provided parking cards that are necessary to exit Parking Structure No. 1.

Upon parking, walk south through the breeze way between the Law School and the Law Library. McGregor is the first building on the right. Should you arrive at the center after 5:45 p.m., proceed to the meeting area and register during the social period.



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## *We are all individuals!*

by Mark Hunter, Membership Development Committee

IEEE is an institute of individuals who are engineers - individual members who are all part of the whole. But the IEEE is not just some collective where individuality is lost and members are just statistics. The whole of IEEE has been maintaining a steady and even slightly increasing membership for several years. **This steady membership statistic portrays a false sense of stability!** There is actually a great deal of change to the membership roles each year. IEEE loses about 50,000 members each year (that's in the area of 15%)! Enough new members are acquired each year to replace these members plus grow slightly so it sometimes appears that we are not losing anyone. But we are losing members!

Why are we losing members? How can we keep them in IEEE? These questions have been major topics at many IEEE officer gatherings and retreats. The possible answers vary greatly from section to section and from age group to age group. A number of programs have been established to try to keep members in IEEE or to recover members who have failed to renew. They all give the sections a great deal of leeway in how the programs are administered. All of the programs work towards one common goal, to keep individual members. To do this, the programs try to contact members individually, work with members to find out what they want, provide members with more activities and provide more recognition for individuals and engineers.

Several programs IEEE is providing to assist sections in the membership area include:

- 1) Graduates of the Last Decade (GOLD): This program encourages local section activities, programs and fellowship among recent college graduates.
- 2) Member Recover a Member (MRM): This program works towards recovering members within the first year after they let their membership lapse.
- 3) Senior Member Initiative: This program encourages members to apply to advance to the Senior Membership level.
- 4) National Engineers Week (NEW): This celebration teaches the public about the engineering profession and provides activities for both engineers and non-engineers.

IEEE is also working to increase the benefits that are part of membership as well as making those benefits easier to use. IEEE membership provides financial advantage programs, discounts with many businesses including insurance and retail, access to vast technical resources, E-mail alias services and many other benefits. The IEEE web pages at [www.ieee.org](http://www.ieee.org) and [www.ieee.org/ra/md](http://www.ieee.org/ra/md) provide up to date information about many of these benefits. Many services are now available on-line.

Do you as an individual have new ideas or want to help out? Send your ideas or comments on membership programs to Dr. Maurice Snyder at [snyder@adi.com](mailto:snyder@adi.com), 734-973-1300. To volunteer, contact the section's new volunteer coordinator, David Horvath at [DAHOrvath@aol.com](mailto:DAHOrvath@aol.com), 734-930-7500.