THE INSTITUTE OF ELECTRICAL & ELECTRONICS ENGINEERS
SOUTHEASTERN MICHIGAN SECTION, IEEE/SEM
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March 2001

WAVELENGTHS

March 28, 2001 IEEE/SEM Section Meeting
Visteon – Dearborn, MI

The Spring-meeting of Southeastern Michigan IEEE Section will be held on Wednesday, March 28, 2001 at the Visteon building in Dearborn, Michigan. Our keynote speaker will be Dr. John Dunning of the NASA - John Glenn Research Center – Lewis Field. Dr. Dunning is going to tell us about the electrical power system on Space Station Alpha. Time is short. So, mark your calendars and log into the Southeastern Michigan website and download the registration form, fill it out and send it along with your check to Sat Basu, our registrar, TODAY!

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

5:30 p.m.	Registration Desk Opens
5:45-6:45 p.m.	Technical Sessions
6:45-7:15 p.m.	Student Branch Exhibits, University Showcase Tables, Vendor Exhibits
7:15 p.m.	Registration Desk Closes
7:15-8:00 p.m.	Dinner
7:30ish p.m.	Awards ceremony will take place during dinner.
8:15-9:00 p.m.	Featured Presentation
9:30 p.m.	Adjourn

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, 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.

Dr. John Dunning to be Keynote Speaker

This evening's presentation will provide a unique perspective of the NASA manned space flight effort. We will have the chance to look through the eyes of one of the designers of Space Station Alpha. Dr. John Dunning will discuss the electrical power systems on the space station.

"Electrical power is a critical resource for the International Space Station. Power is vital to safely operating a space station and allows the crew to live comfortably and perform scientific experiments. Whether used to power life support systems, to run a

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Vote for IEEE/SEM Officers via the IEEE/SEM Web Site

Jim Woodyard, IEEE/SEM Junior Past Chair & Chair of the Nominations Committee

The February issue of Wavelengths contained the ballot for the election of IEEE/SEM officers. The deadline for submission of ballots is March 15th. When the February issue went to press, the ballot was not on the IEEE/SEM Web site. Thanks to Walt Schilling, IEEE/SEM Secretary and Webmaster, members may now vote electronically for the first time in the section's history! I would like to urge you to visit the IEEE/SEM Web site and vote electronically in the event that you have not voted via the paper ballot. Walt has written an article in this issue that addresses the role of the IEEE/SEM Web site in effective section communications.

The elections committee with the support of the IEEE/SEM Executive Committee expended a great deal of energy recruiting members to serve in leadership positions. The ballot has nominations for key positions in the section; however, there are open positions on the ballot. You should feel free to use the write-in feature of the ballot to enter your name for an open position. Also consider entering in the name of a colleague who is willing to serve the section.

I would like to raise the question**: Why should YOU take the time to vote for IEEE/SEM officers?** I can suggest at least three reasons why YOU should

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furnace making crystals, to manage a computerized data network, or to operate a centrifuge, electricity is essential.

This presentation will provide an overview of the International Space Station followed by a more detailed discussion of the Electrical Power System, its components, and its architecture."

Dr. Dunning has worked on the International Space Station since 1983. Until 1993, he managed the electric power system working group for the space station program. From 1993 to 1995, he managed the development of the space station electric power system. Since 1995, he has served as the manage of Space Station support activities at the NASA Glenn Research Center in Cleveland, Ohio. Recently, he was given the responsibility of managing the On-Board Propulsion Technology Program.

His 33 Year career at NASA Glenn has included positions in fluid mechanics, instrumentation, high power lasers, and energy programs. The positions span from bench research to supervision at the division level.

He has earned the NASA Exceptional Service Medal for Space Station Electric Power Systems work and the Exceptional Achievement Medal for Space Station Redesign activities.

Dr. Dunning was born in Ames, Iowa, but has called Cleveland "home" long enough to be considered a native. He earned a B.S. in Chemical Engineering from Michigan State University in 1962 and a PhD in Chemical Engineering from Case Institute of Technology in 1967. He is married with three children and two grandchildren. Two of the children live in Minneapolis.

Vote for IEEE/SEM Officers

Continued from page 1

vote. First, the bylaws require the membership to conduct elections. Hence, as an IEEE/SEM member, YOU have the duty to vote.

Second, YOU should vote because it could make a difference. YOU may rationalize that other people will vote and that YOUR vote will not influence the outcome. The past presidential election belies that point of view. However, since our ballot has only one contested position, you may find some solace in taking this position.

So… it looks like duty dictates that YOU must vote. Clearly duty is one of the lower actuations for human behavior and we should find a higher level reason for voting. I would like to give YOU the third and my REAL reason for why YOU should vote for YOUR IEEE/SEM officers. Voting can be your way of showing whom you support and that YOU appreciate their efforts. Officers serve YOU by working to provide programs for YOUR professional development; assisting in the support and development of student branches at colleges and universities in southeastern Michigan; providing leadership for pre-college programs in our neighborhood schools; cosponsoring national and international IEEE conferences in southeastern Michigan; and recruiting engineers to join IEEE.

IEEE/SEM officers serve YOU. Please take the time to show them YOU support and appreciate their service.

PLEASE VOTE!!!

EMC*Fest* '2001

A Colloquium and Exhibition on

Practical Control of Inductance in PCB's, Cables, Connectors and Motors

Monday, April 23, 2001
Dearborn Inn
Dearborn, Michigan

7:30 am-8: 30 am Registration & Continental Breakfast
8:30 am-5: 00 pm Technical Sessions
5:00 pm-6: 30 PM Reception, Exhibits & Demonstrations

Featuring
Industry renowned speakers:
Lee Hill & Jim Muccioli

The focus of this colloquium will be on practical methods of controlling the inductance at the PC board and system level. This will include connectors, cables and devices under the control of the electronic system.

Registration Fees
$150 prior April 13
$175 after April 13 and at the door
Non-IEEE attendees, add $25

ATTENDANCE IS LIMITED
***** Register early *****

Fees include one copy of the colloquium record, continental breakfast, a 'networking' lunch and a "Happy Hour" reception immediately following the Technical Sessions.

Hands on participation during the demos
Vendor tabletop exhibits of the latest EMC related products and services.

For further information:
Kimball Williams: Co-Chair Technical Program Ph: 248-354-2845 e-mail: k.williams@ieee.org
Janet O'Neil Co-Chair Exhibits
Ph: 425-868-2558 e-mail: j.n.oneil@ieee.org
Home page: `http://emc.eaton.com/emcfest2001.htm`

Sponsored by the Southeastern Michigan Chapter of the IEEE Electromagnetic Compatibility (EMC) Society.

IEEE Southeastern Michigan Section Executive Committee

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Vice Chair	Kimbal Williams	(248) 354-2845
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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

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Visit the following IEEE World Wide Web sites:

Section: *www.ieee.org/regional/section/se_michigan*
IEEE: *www.ieee.org*
IEEE Region 4: *www.ieee.org/regional/r4/*

Calendar of Events

Wednesday, March 28th	**Event:**	**IEEE Spring 2001 Section Meeting**
	Time:	5:30 p.m. Registration and Check
	Location:	Visteon, Dearborn, MI
	Contact:	Sat Basu, satbasu@ieee.org, 313-235-6523
Monday April 2nd	**Event:**	**SEM Executive Committee Meeting**
	Time:	Dinner at 6:00 pm, Meeting 6:30 pm
	Location:	Eaton Corp, 26201 Northwestern Hwy, Southfield
	Contact:	Kimball Williams, k.Williams@ ieee.org, 248-354-2845
Monday April 23rd	**Event:**	**EMCFest '2001**
	Location:	Dearborn Inn, Dearborn, Michigan
	Contact:	Kimball Williams: Co-Chair Technical Program 248-354-2845 e-mail: k.williams@ieee.org Janet O'Neil Co-Chair Exhibits 425-868-2558 e-mail: j.n.oneil@ieee.org
Monday May 7th	**Event:**	**SEM Executive Committee Meeting**
	Time:	Dinner at 6:00 pm, Meeting 6:30 pm
	Location:	Eaton Corp, 26201 Northwestern Hwy, Southfield
	Contact:	Kimball Williams, k.Williams@ ieee.org, 248-354-2845
Monday June 4th *(Tentative)*	**Event:**	**SEM Officer Training Seminar**
	Time:	Dinner at 6:00 pm, Meeting 6:30 pm
	Location:	Eaton Corp, 26201 Northwestern Hwy, Southfield
	Contact:	Kimball Williams, k.Williams@ ieee.org, 248-354-2845
June 7-9, 2001	**Event:**	**The Second IEEE Electro/Information Technology Conference**
	Description:	The Electro/Information Technology Conf., is the second regional/national conference focussing on presenting basic/applied research results in electrical and computer engineering relating Information Technology.
	Location:	Oakland University, Rochester, MI
	Contact:	Dr. Subra Ganesan, ganesan@oakland.edu, 248-370-2206

Chapter I: Circuits & Signal Processing

Title: Three-Dimensional Integrated Circuits Technology

Speaker: Dr. Misoon Mah

Affiliation: Wright-Patterson Air Force Base, Dayton, Ohio

Abstract: The purpose of this technology development is to provide the technology advancements needed for implementing affordable compact 3D MMICs for next generation microelectronics for commercial and military communication applications.

To accomplish this goal, the current MMIC technology needs to be reengineered for it to be able to increase its functionality with the necessary concomitant reduction in cost and size. The size reduction in current technology is limited because it is 2D, planar technology. To achieve the degree of miniaturization required innovative 3D interconnect and integration technologies are required beginning at the chip level and continuing throughout the microwave multichip assembly (MCA).

The content will focus on the multilayer interconnect technology development as this technology provides the greatest potential for improvements in miniaturization. It will also include discussion on 3D unique microwave circuit components, such as 3D-Balun, 3D-inductor and 3D-Wilkinson Combiner/Divider, and discussion on compatibility with current MEMS technology for microwave applications.

Biography of the speaker: Dr. Mah is an electronics engineer in the Multi-Chip Integration Branch of the Aerospace Components and Subsystems Concepts Division of Sensors Directorate at Air Force Research Laboratory. She has worked in the field of micro-electronic devices and components for 17 years. She received BS in chemistry from Sogang Jesuit University. She also holds BSEE and MSME from University of Dayton and the University of Utah, respectively, and received a PhD in Electrical Engineering at the University of Cincinnati (UC) in 1998. Focus of her research at UC was on developing innovative 3D MMIC, particularly in the circuit and electromagnetic simulation areas. She also has extensive experience in the MMIC fabrication and electromagnetic simulation areas. Currently she is working on 3D interconnect technology development for the microwave/mm wave electronic components.

- Professional Activities: IEEE, KSEA (Korean Scientists and Engineers in America)

Chapter II: Vehicular Technology

Title: EGR Systems Module (ESM)

Speaker: Freeman Gates

Affiliation: Ford Motor Company

Abstract: Ford Motor Co. was the first automotive company to introduce the potentiometric position sensor based closed loop feedback control system in the Exhaust Gas Recirculation System (EGR). This introduction was on the 1978 Lincoln Versailles, which coincided with the 1st level of Electronic Control Module (EEC-1). This technology, which was adopted by many automotive companies in subsequent years, provided a means to meet the federal mandated "Clean Air Act" legislation for Nox emission exhaust pollutant control.

To provide a more robust protection against potentiometer failures in the EGR system due to contact friction and to provide immunity against contaminant deposition, a differential pressure sensor with a flow control orifice was substituted for the position sensor. This differential pressure feedback signal was taken upstream of the EGR valve. This "Differential Pressure EGR" system, introduced in 1985, has been the predominant EGR system used on all Ford products in North America and many other applications worldwide.

With the advent of major breakthroughs in silicon micro-machining technology, pressure sensors with improvements in accuracy and package flexibility allowed for total integration of all sub-components i.e. EGR valve, actuator and sensor into one modular design (ESM). Relocating the flow control orifice downstream of the EGR valve further enhanced this modular concept. This represents a radical departure from current production.

A subsequent major breakthrough in this orifice relocation allowed for the formation of a nearly "free" Manifold Absolute Pressure sensor, which can be used for OBD II diagnostics, EGR flow

correction, Barometric measurement and speed density fueling strategy. This is done at a considerable cost savings, while improving EGR system transient response with improvements in fuel economy.

Biography of the speaker: Mr. Gates was born in Memphis, TN. He received a Bachelor of Science degree in Electrical Engineering from Christian Brothers University in 1972 with graduate studies at California Institute of Technology. Prior to working at Ford, Mr. Gates was a design engineer for Warwick Electronics (Silvertone Consumer Electronics) and Zenith where he developed the industries first color TV digital IF alignment and quality audit system, which was featured in several national TV advertisement campaigns. Mr. Gates also was employed by G.D. "Searle Analytic and Radiographics" in Des Plaines, IL. Where he was responsible for designing and developing Nuclear Medical diagnostic imaging systems such as the LFOV (Large Field of View) Pho Gamma Camera which still is used at hospitals and diagnostic laboratories worldwide.

Since joining Ford in 1977, Mr. Gates has received 10 patents including a Henry Ford nomination award. Particular select accomplishments include inventing the industries first full range engine misfire detection system for 8, 10 or 12 cylinder engines. In 1985 Mr. Gates introduced the industries first closed loop controlled "Pressure Feedback" EGR system on the 2.9L Ranger and later on all Ford gasoline engines sold in North America. This invention was highlighted in a technical publication authored by Mr. Gates and presented in Florence, Italy at the "International Technical Automotive Symposium Association". Mr. Gates' most recent invention, the ESM (EGR Systems Module) represents a potential cost savings of 100-million dollars/ year with substantial improvements in reliability and fuel economy.

In his current capacity as "Sr. EGR Systems Technical Specialist" at Ford Motor Co., Mr. Gates is responsible for the implementation of the latest EGR system technology/strategy on all North American products. In addition to this, Mr. Gates serves as a worldwide industry consultant and instructor.

On a personal basis, Freeman is married to Paris who is a second grade teacher at Adler Elementary School in Southfield. They have a 14 yr. old daughter, Kristen who attends Groves High school in Birmingham. In his spare time, Freeman is a musician, specializing in improvisational Jazz and Gospel saxophone.

Chapter IV: Trident

Title: To be determined.

Chapter V: Computer

Title: Content-Based Access to Multimedia Information

Speaker: Prof. Ishwar K. Sethi

Affiliation: Computer Science & Eng. Dept. School of Engineering & Computer Science, Oakland University, Rochester, MI

Abstract: The content-based access to growing digital information is an important component of the emerging digital government and society. In this talk, I will present few existing approaches for content-based access to multimedia information, focussing specially on images and videos. Examples of work done by my students from Wayne State University and Oakland University in this area of research will be presented with few demos.

Biography of the speaker: Ishwar K Sethi is a Professor of Engineering at Oakland University where he chairs the Department of Computer Science and Engineering. Prior to joining Oakland University in August 1999, Professor Sethi served as a faculty member at Wayne State University in the Department of Computer Science. His current research interests lie in intelligent engineering of information. He is a Fellow of IEEE.

Chapter VII: Power Eng. & Ind. Apps.
Chapter IX: Power & Ind. Electronics

Title: Fuel Cells - The Future is Now!

Speaker: John O'Donnell

Affiliation: DTE Energy Technologies

Biography of the speaker: John J. O'Donnell, P.E., is the Director of Technology and Engineering for DTE Energy Technologies, a wholly owned subsidiary of DTE Energy, offering a broad range of high-technology energy related products and services. At DTE Energy Technologies, John is responsible for the installation of Plug Power

residential fuel cells in the mid-west, the development and maintenance of Internet services for providing energy information to commercial and industrial customers and the development of distributed generation products and strategies. John has been with DTE Energy since 1991.

John completed Bachelor's degrees in Physics and Electrical Engineering with Highest Distinction and has a Master's degree in Electrical Engineering from the University of Michigan. He is currently pursuing a Masters degree in Business Administration at the University of Michigan. In addition, he has completed Sun Certification as a Java Programmer and Developer.

John is very active in The Engineering Society of Detroit. He is the Chairman of the Young Engineers Council, a member of the IT strategic interest group and member of the selection committee. He also regularly volunteers for activities such as the Detroit Science and Engineering Fair, the International Science and Engineering Fair and Future Cities Competition. John also enjoys working at Gleaners Food Bank and for Habitat for Humanity.

Chapter VIII: EMC

Title: ARRL's Role in Addressing EMC Issues for Amateur Radio

Speaker: Ed Hare

Affiliation: ARRL
Newington, CT

Abstract: Ed Hare will give a general talk about ARRL's role addressing EMC issue for Amateur Radio.

Biography of the speaker: Ed Hare, W1RFI, was first licensed in 1963. With 16 years in the electronics industry, he came to ARRL HQ in 1986. He has been with ARRL HQ for over 15 years. He started as ARRL's "Product Review" test engineer, moved on to becoming ARRL's "RFI guru" (notice his call!) and he now holds the position of Laboratory Supervisor. Over the years he has written quite a number of RFI articles, ranging from articles for QST and the "ARRL Handbook" to articles that have appeared in professional trade journals. He is also one of the editors and authors of the ARRL "RFI Book" and the author of the ARRL's book on RF exposure, "RF Exposure and You."

He is very active in several RFI programs at ARRL, holding membership on the Society of Automotive Engineers EMI Standards Committee and EMR Standards Committee, the IEEE C.63 Committee and IEEE Standards Coordinating Committee 28, representing ARRL and the interests of Amateur Radio in developing standards for the immunity of consumer equipment, motor vehicles and standards for RF exposure.

Chapter X: Engineering Management

Title: Engineering Collaboration - Digital Engineering Office (DEO)

Speaker: Chuck Sawicki

Affiliation: IMB North American Automotive Practice

Abstract: The Industry has largely solved the process and technological issues related to the design and development of new auto products through the collaboration of engineers within the OEM platform teams, their suppliers and design partners. The next wave of design collaboration allows the process to be joined more completely by the support organizations, especially those who are not members of the engineering community: those who do not have access to the engineers tool set. The basis of the next wave of design collaboration includes effective access to design information from the desktops of the non-engineering professional, and the integration of design and other office productivity tools and work flow management.

DEO for design collaboration are built upon standard, web based, office oriented collaboration and instant messaging technology. By delivering on these platforms, some interesting features can be exploited. These include instantaneous language translation using voice or text messaging, and access by engineers and non engineers regardless of what technology they use to perform their individual tasks.

A March, 1999 study by the National Institute of Standards and Technology shows that interoperability problems due to quality errors within the automotive supply chain could cost as much as $1 billion per year. It is further suggested that the use of real time collaboration tools could reduce these interoperability errors by as much as 40%. Errors in design data add rework time and cost to every group or supplier that needs the data. Real time collaboration helps in reducing not only design errors, but the time it takes to resolve errors once found.

Real time collaboration with language translation on the fly further reduces potential errors by elimination of language barrier caused errors.

Biography of the speaker: Mr. Sawicki is a consultant in IBM's North American Automotive practice. Over the last 12 years he has supported manufacturing and design firms throughout the U.S. Mr. Sawicki currently specializes in the data management and process needs of the automotive industry.

Developed the high-level body engineering and design processes for a major commercial vehicle OEM. These processes were

designed to leverage data management and collaboration tools. Quick hits were identified that would drive multiple man weeks out of the traditional process even before implementation of new technology.

Helped a U.S. automotive manufacturer develop an optimized data management vision that leverages its supply chain's contribution to overall design. This initiative required a complete understanding of the processes involved at the OEM and in the supply chain.

Provided technical and focused sales support to sales teams during efforts to sell engineering data management software and services to automotive OEMs and Tier 1 suppliers. A major focus was on the mapping of technology to process requirements

Developed a rapid pilot implementation offering for automotive suppliers that addressed the needs of product development groups. The offering provided pre-configured hardware, software and services that demonstrated capabilities and were used to develop production rollout justifications.

Mr. Sawicki has a master's degree in business administration with an emphasis on marketing from Eastern Michigan University, and a bachelor's degree in computer aided manufacturing also from Eastern Michigan University. He is a member of the American Society of Body Engineers. He also spent 4 years in the U.S. Marines maintaining electronics on radars supporting a guided missile system.

Student Track

Title: Becoming a Registered Professional Engineer

Speaker: Russell H. Kinner, PE

Affiliation: AVCA Corporation

Maunee, Ohio

Abstract: Becoming a registered professional Engineer is the mark of a professional. It is used to evaluate the advancement potential of employees and is often required for engineers in government service as well as for those who teach engineering. To actually become registered, individual states generally require applicants meet the same minimum standards. This presentation will discuss these requirements and what to do to be ready to take "the test." Also discussed is the growing requirement by many states for Professional Development Hours (PDH) and how IEEE and other organizations help provide a forum to obtain these PDHs.

Biography of the speaker: Russell H. Kinner PE, received his BSEE in 1974 from the University of Toledo and became a registered professional engineer in Ohio in 1979. He has worked in the industrial automation arena since graduation and has worked for AVCA Corporation, an engineering and architectural firm in Maumee, Ohio for the last 14 years. Within IEEE, Mr. Kinner has served in most Toledo Section officer positions. He was section chair in 1991. In addition, the Toledo Section has chosen him as the section's 'Engineer of the Year" twice - in 1993 and in 2000. He is currently serving as Region 4 Professional Education Activities Coordinator.

The technical sessions are held in parallel beginning at 5:45 p.m. Please indicate which technical session you plan to attend on your registration form - Page 11.

Chapter VIII Electromagnetic Compatibility

by Scott Lytle, Chapter Chair

I would like to take this opportunity to tell you about the activities planned for this year. We are planning activities for almost every month, and sometimes several per month. Meetings are generally held at Eaton Corporation's Innovation Center in Southfield.

Last September, we had three successive Tuesday meetings averaging 70 attendees each on Automotive EMC. This September will be similar, but this year the topics will be on FCC, CISPR and ISO Testing.

This year we begin in January with presentations by Kimball Williams and Arnie Nielsen on Chattering Relay Immunity testing at the University of Michigan – Dearborn Campus. On March 28th at Visteon we will have a presentation by Ed Hare on "ARRL's role addressing EMC issues for Amateur Radio".

On April 23rd we will host our second annual EMC Fest again at the Dearborn Inn. Last year we had 154 attendees between the EMC Fest and the two-day Henry Ott course at Eaton. This year's lecturers will be on "Practical Control of Inductance in PCB's, Cables, Connectors and Motors." The speakers will be Lee Hill and Jim Muccioli.

Other planned lectures for 2001 include Andy Podgorski on June 19th with a fun presentation on RC Aircraft and Lightning. Then in July, Trace McInturff will give discuss the A2LA (EMC) Laboratory Accreditation process at Defiance.

Please rendezvous with us for the 2001 The International IEEE EMC Symposium on August 13 at the "Palais des Congres de Montreal" in Montreal, Canada.

October to December will bring such meeting topics as Trouble Shooting, Amateur Radio and maybe even a "Star Trek Night"! Does anybody have Leonard Nimoy's phone number?

This year's officers will be:

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

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

For more information on the above meetings, please visit our web page at `http://www.ewh.ieee.org/r4/se_michigan/emcs/`.

Spring'01 Meeting: Professional Activities Program

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

The Southeastern Michigan Section of the Institute of Electrical and Electronic Engineers (IEEE) will hold its Spring 2001 meeting on Wednesday, March 28, 2001, at Visteon Technical Center in Dearborn.

We anticipate attendance of over 50 student members and 100 regular members representing all levels of the electrical and computer engineering profession. Attendees will include representatives from the big three automakers and other high tech businesses. Within this region, the IEEE Section sponsors 10 student branches at universities and 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).

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 $50 USD.

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 $50 USD.

Contact Dr. Tarek Lahdhiri
IEEE/SEM Director of Professional Activities
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OR visit our website: `www.ieee.org/regional/section/se_michigan`.

IEEE/SEM 2000-01 Awards Program

by Jim Woodyard, IEEE/SEM Junior Past Chair
Chair of the Awards Committee

The IEEE/SEM 2000-01 Awards Program will be one of the highlights of the IEEE/SEM Spring 2001 Meeting to be held at Visteon on March 28th. The awards program has been a part of section meetings at least since the early 1980's. However, with the introduction of section awards in 1993 and the sponsorship of pre-college student competitions, the program has grown. With each junior past chair since 1993, effort has been expended in completing and seeking nominations for IEEE Region 4, IEEE-USA and section awards, and the task has increased. I will discuss the award process and the awards to be recognized at the upcoming section meeting.

Planning and development of the IEEE/SEM 2000-2001 Awards Program began in March, 2000. The 1999-2000 Awards Committee had the formidable task of administering the IEEE Third Millennium Medals and section awards. In an effort to assist the committee, I completed self-nomination materials on behalf of the section for the 2000 IEEE Region 4 Exemplary Section Award. Last July after assuming the office of junior past chair, I recruited Dave Horvath, Sandy Hunter and Jim Rillings to serve on the IEEE/SEM 2000-2001 Awards Committee.

During the summer I worked on nominations for IEEE-USA Awards, and as the fall arrived began the process of writing articles for this newsletter and the IEEE/SEM Website. Walt Schilling , IEEE/SEM Webmaster, was most helpful in posting on the Web articles announcing the awards program, nomination forms etc. As winter approached, I enlisted the assistance of the IEEE/SEM Executive Committee in seeking nominations for section awards. Only then did nominations begin to arrive and could I see that the earlier efforts were beginning to pay off. The nominations committee reviewed nominations as they arrived and made the difficult decisions that must be made when reviewing the extraordinary efforts of our peers. When the decisions became extremely hard to make, we rationalized that we will nominate runner-ups for IEEE/SEM 2001-02 Awards Program. As this article goes to press we are in the process of contacting recipients, producing and framing award certificates, and developing an awards brochure for the section meeting.

Not all the awards will be presented at the section meeting but each awardee will be recognized. There are cases where IEEE awards will be presented at technical conferences and other IEEE venues. However, IEEE/SEM will recognize recipients of ALL awards received by its members as well as finalists in student competitions sponsored by IEEE/SEM. Each awardee and a "special other" will be invited to the section meeting as guests of IEEE/SEM. It is in this manner the section celebrates the high quality of professionalism exhibited by our membership and the successes of student finalists. Below is a list of the awards to be recognized at the March 28th section meeting.

IEEE Electromagnetics Award, Fawwaz T. Ulaby, University of Michigan, "For contributions to microwave remote sensing and technology, its geoscientific applications, and related education."

IEEE Fellow, Dennis S. Berstein, University of Michigan, "For contributions to robust control theory and control engineering education."

IEEE Fellow, Ishwar K. Sethi, Oakland University, "For contributions in statistical pattern recognition and neural networks."

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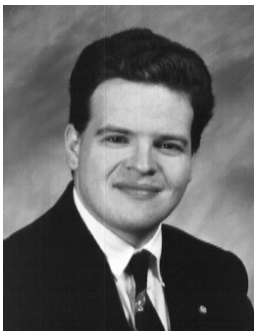
Communications Committee

by Walter Schilling SEM Section Secretary and Webmaster



Communications is the key to success in any organization. Without effective communications, the best organized organization will fail. Last year, the IEEE/SEM Communications Committee was charged by the Executive Committee with developing a strategic plan for improving the communications within the section. All area of communications were to be addressed: paper based communications (Wavelengths), electronic communications (the website and e-mail), and other forms of communication (such as virtual meetings).

In terms virtual meetings, the communications committee has developed and executed several virtual meetings using an Internet Relay Chat (IRC) server operated by the IEEE-USA. IRC has been until recently a communications system used only by high school and college students to chat. Region 3 of the IEEE, located in the Southeastern United States, started a project to develop effective electronic conferencing by members of the Board of Directors. Using IRC, Region 3 is able to conduct all Board of Directors meetings electronically, saving time and money. The IEEE/SEM has used the experiences of Region 3 and developed a strategy to move to virtual meetings. The IEEE/SEM Spring 2001 section meeting will be the first true test of this strategy, as all section meeting planning committee meetings are going to be held electronically.

Electronic conferencing is only one small issue the communications committee is addressing. The most important issue, however, is communicating with the IEEE/SEM membership. Until recently, Wavelengths has been the principle form of communication with the section membership. Wavelengths has its problems. As a paper based publication, it is extremely expensive to produce. Approximately 40% of the IEEE/SEM Section's budget is spent on Wavelengths production. It is the single largest expense within the section. It also suffers from very long lead times. An article written today will not be seen by the membership until at least a month later. It also suffers from fixed deadlines. If a piece of news is received the day after publication, it must wait until the next scheduled publication to be announced. By that time, the information is probably not current. Wavelengths is not unique in having these problems; they apply to all paper based publications.

The development of the World Wide Web, however, has generated a medium in which the limitations of a paper-based publication can be overcome. A few years ago, the IEEE/SEM section established a presence on the World Wide Web by creating website. Over the years, the site has been periodically updated. However, it has not been as successful as it could be. With the formation of the communications committee, the web became an important discussion topic.

Over the past year, the web site, located at `http://www.ewh.ieee.org/r4/se_michigan/`, has been completely reorganized and a concerted effort made to keep the site up to date. The website is functioning as a repository for section information. Wavelengths issues dating back to 1997 are available at the click of a button. The IEEE/SEM Executive Committee may access meeting minutes and agendas online dating back to 1999. All forms which are routinely used by the executive committee are also available. Officer nominations can also be conducted via the web. Contact information for all section and chapter officers are also available on the web.

The website is not just for the executive committee. The website has an online calendar of events within the IEEE/SEM section. Online submission of events to the webmaster is possible. Detailed supplemental information is available by simply clicking on a link for many calendar entries (e.g. the upcoming section meeting in March). We are working on developing online registration for events, such as the upcoming section meeting and the EMC Colloquium. Currently, our infrastructure does not allow us to use secured transactions to process credit cards. However, we are working to change this. The EMC Society and Engineering Management Society Chapters are developing web pages that contain detailed information about their individual program. Our goal is for all chapters to maintain a web site by the end of this year.

The web does not solve all of the section's communications problems. For one thing, the website is a polled system. A section member must routinely go out to the website to determine if there is something new on it. This method is very ineffective, for users eventually forget to visit the site, and thus, are not made aware of important announcements. To counter this, the communications committee is evaluating the usage of e-mail messaging to communicate with section members. Two chapters are already using this method very effectively. Our goal as a section is to develop an e-mail listing which can be used to distribute information to section members when deemed necessary. Our messages will be brief, with a short summary and a link to the website for more detailed information.

While we do not have any current plans for completely abandoning the paper-based Wavelengths publication, we are considering changes to the frequency and content in order to control costs and make for a more effective communication. To help the communications committee address the communications needs of the section, an electronic survey has been placed on the IEEE/SEM website. Please visit the site and complete the survey to help us to meet your communications needs.

WANTED!!! Editor for Wavelengths

Responsibility:

1. Edit eight issues of Wavelengths per year
2. Suggest layout for issues
3. Work with Wavelengths Administrator to meet schedules
4. Advise IEEE/SEM ExCom on Wavelengths policy matters

Requirements:

1. Good command of English
2. Able to work with professionals
3. Interested in providing service to IEEE membership

Benefits:

1. Professional Development
2. Network with IEEE members in southeastern Michigan
3. Build a record of service to IEEE

Contact: Jim Woodyard at 313-577-3758 or `woodyard@eng.wayne.edu`

IEEE/SEM 2001 Spring 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 before March 15, 2001 to:

Sat Basu
PO Box 4928
Troy, MI 48099

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

Name: _____
Company:_____
Address:_____
City/State/ZIP:_____
Phone Number:_____ [ ] H [ ] W

Tech. Session #: _____
Meal Selection: [ ] None, [ ] Chicken, [ ] Vegetarian

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

Please type or print

Fees	Amount	Deadline
Pre-Registration	$30 US	Received by mail before March 12, 2001.
Late Registration	$35 US	Contact Sat Basu at 313-235-6523 or satbasu@ieee.org by 5 p.m. March 15, 2001.
Student Branches	$15 US	Register & pay through student branch. Contact: Edzko Smid at 248-370-2082 or smid@oakland.edu by March 15.

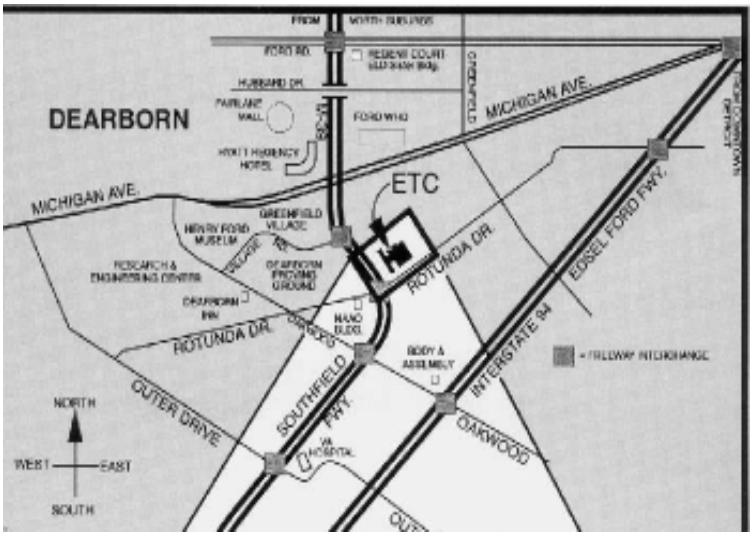
Technical Sessions

1.	**Chapter I**	3-D Integrated Circuits Technology
2.	**Chapter II**	EGR Systems Modules (ESM)
3.	**Chapter IV**	To be determined
4.	**Chapter V**	Content-Based Access to Multimedia Information
5.	**Chapter VII Chapter IX**	Fuel Cells - The Future is Now!
6.	**Chapter VIII**	ARRL's Role in Addressing EMC Issues for Amateur Radio
7.	**Chapter X**	Engineering Collaboration - Digital Engineering Office (DEO)
8.	**Student Track**	Becoming a Registered Professional Engineer

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

Directions to the 2001 IEEE/SEM Spring Section Meeting at Visteon

The Visteon Technical Center is located at the intersection of the Southfield Freeway and Rotunda Drive in Dearborn, MI. Rotunda Drive is the First exit South of Michigan Avenue on the Southfield Freeway. A map can be found on the Southeastern Michigan website, http:// www.ewh.ieee.org/r4/se_michigan/.



Visit the newly revised IEEE web site at **www.ieee.org**

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IEEE/SEM 2000-01 Awards Program

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IEEE Fellow, Duncan G. Steel, University of Michigan, "For contributions to optical phase conjugations and the nonlinear laser spectroscopy of semiconductors."

IEEE Fellow, William James Williams, University of Michigan, "For contributions to time-varying spectral analysis."

IEEE Fellow, James Raymond Winkelman, Visteon, "For contributions to automotive control systems."

IEEE 2000 Regional Professional Leadership Award, Don C. Bramlett, Detroit Edison, "For contributions to pre-college education programs, setting a high standard for his colleagues in the area of professional activities, and numerous specific contributions to IEEE Region 4 professional activities programs."

IEEE Region 4 2000 Outstanding Engineer Award, Eric M. Aupperle, University of Michigan, "Who, through his technical abilities and leadership has made significant contributions to the engineering profession, his example and dedication to the profession has inspired all who know him, and to lead them in the furthering of the high standards of the engineering profession as proscribed by the IEEE.

IEEE Region 4 2000 High Proficiency Section Award, IEEE Southeastern Michigan Section, "For high proficiency in carrying out the objectives of the IEEE through section activities."

IEEE/SEM 2001 Outstanding Engineer Award, Frederick Bauer, Ford Motor (retired), "For his many accomplishments in the unification of worldwide vehicular radio frequency interference standards and innovations in the technology of electromagnetic compatibility."

IEEE/SEM 2001 Outstanding Section Involvement Award, Sat Basu, "For his long standing involvement with the IEEE/SEM Executive Committee and numerous valued suggestions that have benefited the section."

IEEE/SEM 2001 Outstanding Chapter Involvement Award, Scott Lytle, "For constant support of Chapter VIII which has resulted in significant increases in the number of chapter activities, membership participation and service to its members."

IEEE/SEM 2001 Outstanding Student Branch Award, Wayne State University, "For providing professional, social and intellectual advancement opportunities for its members; assisting with IEEE/SEM meetings; and participating in several university and community service projects."

Students receiving awards in the **Science Fair** and **Future City Competition** will also be recognized.

Please contact me at woodyard@eng.wayne.edu prior to the meeting if I have inadvertently not listed an award received by one of our members or student finalists in an IEEE/SEM sponsored competition.