



Wavelengths

Section Chair's Message



**Volume 54 – Issue 05
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May Message:

The Spring Conference was a great success and I congratulate Professor Hoda S. Abdel-Aty-Zhody, PhD. for her and her team's efforts. She was aided by our Conference Committee team headed by Raju Brahmndhabhen.

Please join me in thanking them for a wonderful evening. Details are available in the article starting on page two.

Robert Neff
IEEE SEM Section Chair
RLNeff1@gmail.com

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Now the task before us is to organize and plan a **Fall Conference**. I am appealing for an interested volunteer to come forward and lead this effort. If you are interested, please contact me immediately.

*Wavelengths Newsletter is produced by IEEE volunteers and published by IEEE Southeastern Michigan (SEM) Section (<http://www.ieee-sem.org>) for the Section members.
Newsletter website:
http://ewh.ieee.org/r4/se_michigan/newsletter
Email: wavelengths@ieee-sem.org*

2014 Spring Section Conference

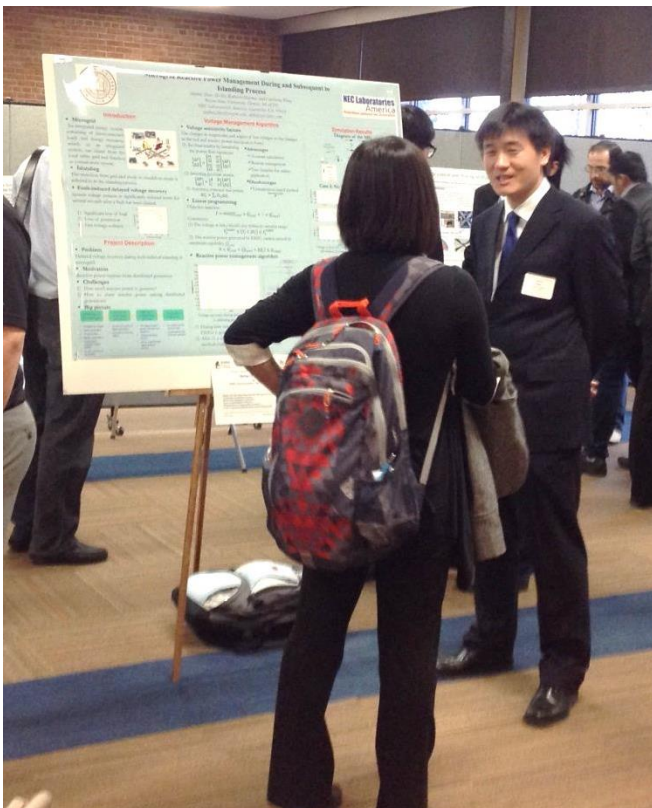
The 2014 Spring Conference was held on the Campus of Oakland University in Rochester, Michigan on April 24, 2014 at the impressive "Oakland Center": shown below.



According to the 'L31' report there were a total of 130 members, students and guests that gathered for

- Networking, (Greeting old friends and making new ones.)
- Student Posters, (19)
- Panel Discussion (5 Experts)
- Technical Presentations (8)
- Dinner (Good Food by the OU Staff)
- Keynote Speaker, and
- Awards.

Attendees were greeted by **Scott Lytle** (at right) who performed the duties of on-site sign-in and registration. Behind Scott you can see some of the Students gathered to show off their poster presentations.

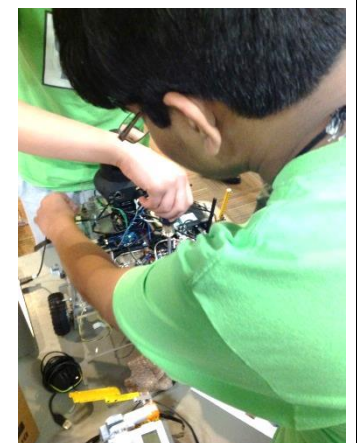
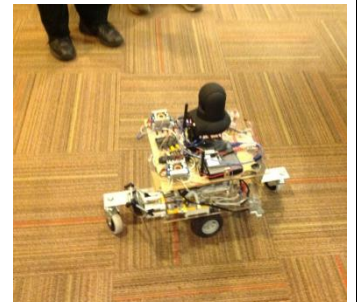


Student Posters were judged by selected Senior Members who were able to recommend 'winners' in an overall student poster contest as part of the evenings award presentations at the end of the evening.

The evening was enhanced by the presence of several "Robots" (See Photos) built and guided by local middle and high school students.

In the accompanying photos you can see one of the robots maneuvering on the conference entry hall floor while several of our members watched in obvious interest.

One of the robots required a bit of 'adjustment' and the students immediately dove into the works to make corrections to systems they obviously knew and understood well. The enthusiastic participation of these excited and dedicated students added a welcome degree of excitement to the evening.



Spring Conference 2014:

The 'Main Events' of the evening were kicked off by Dr. Hoda Abdel-Aty-Zohdy of Oakland University who introduced the evenings panel of experts for the discussion topic; **"Industry Advancing Technologies for Humanity"**



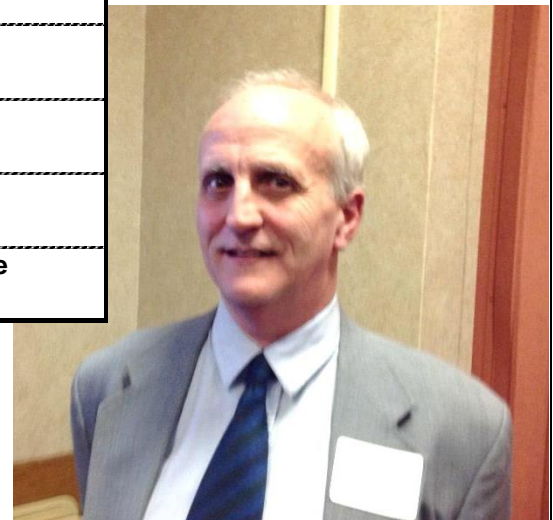
The panel was made up of:

- 1- Dr. Hussein Dourra, CHRYSLER.LLC
- 2- Dr. Subhendu Guha, United Solar
- 3- Ms. Delia Rodi, CEO, NIAGARA MURANO
- 4- Dr. Anthony Coopridr, , Ford Motor Company
- 5- Dr. Hoda S. Abdel-Aty-Zohdy, Oakland University

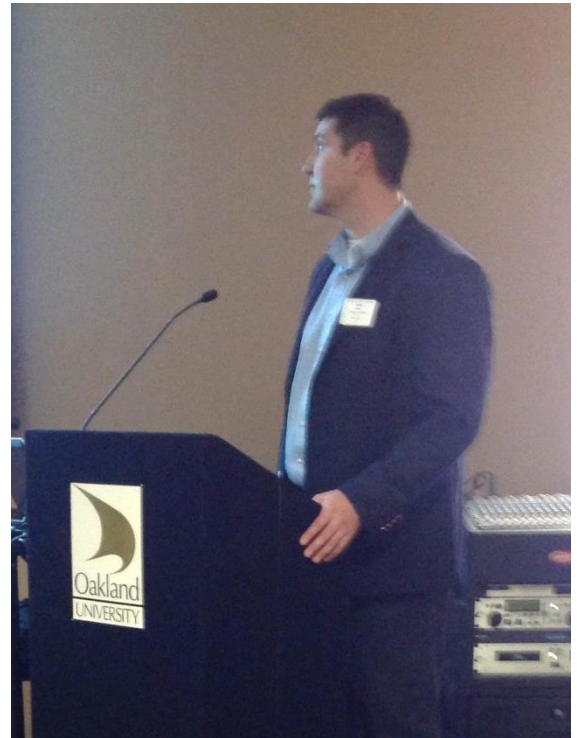


The evening continued with a battery of technical topics and speakers as shown below:

Presentation Title	Speaker
The Importance of Electromagnetics in the Automotive Industry as a Result of Telematics and Infotainment	Dr. Dan Aloï
Using Cyber-Physical Systems to Explore Ancient Sites Underneath Lake Huron With Cultural Algorithms	Robert Reynolds
Model Based Control Application to Powertrain Applications	Dr. Gouming Zhu
Cloud based Mobile Application Testing	Rajkumar Bhojan
Getting arms around Big Data with Systems Thinking	Satyendra Rana
Performance Analysis of Adders over Fp for Cryptographic Applications	Dr. Fayez Gebali
Electric Vehicle Charging	Rich Scholer
Reverse Power Flow (RPF) in the SG environment with applications	Albert Ancona
IEEE Power & Energy Society Scholarship Plus Program	Kevin Taylor
Microsystems to Nanosystems: Meeting the Challenges of the 21st Century	Kensall D. Wise (Keynote)



A few of the many speakers who made this evening a success are pictured here.



Each of the speakers gave engrossing presentations on leading edge topics of interest to our members who attended. Indeed, some sessions 'Question and Answer' portions extended almost right up to time for the entire membership to assemble for dinner, followed by our Keynote speaker.

Kensall D. Wise, the William Gould Dow Distinguished University Professor, and Oakland University Professor Emeritus Electrical Engineering and Computer Science, presented a stimulating and thought provoking lecture on **"Microsystems to Nanosystems: Meeting the Challenges of the 21st Century"**



Awards completed the evening's activities with a chance to say "Thank You to a few of the many Southeastern Michigan Section members who worked long and hard to make this evening a success.

Special thanks are due to Dr. Hoda S. Abdel-Aty-Zohdy of Oakland University who led the team that put the conference together. Much credit also goes to the SEM Conference Committee, led by **Raju Brahmahabheri**. Raju is also looking for someone to lead the next Conference in the Fall of 2014. Interested members should contact Raju at: bvraju@gmail.com to offer their assistance.



Dr. Wise

-30-

Welcome New Officers: Women in Engineering Affinity Group

It is my great pleasure to be able to introduce to everyone the officers who will be taking the lead to re-establish a viable IEEE **Women in Engineering** Affinity Group (WIE) presence here in our Section.

The three ladies shown in the block below have agreed to step up to the challenge and responsibility of organizing a meaningful set of programs of interest and assistance to

the many women engineers in our Section.





As soon as regular WIE Executive Committee meetings are organized, we will be sure to post them on the SEM Website Calendar. If you are interested in participating, let us know so that we can put you on our mail list.

Although currently the Treasurers position is in temporary hands, we

hope to find a full time volunteer to fill that slot in the near future. If you have an interest in helping make the WIE in our Section a success, please contact our WIE Secretary, Peng Zhang, and let us know of your wish to volunteer.

I hope everyone will join me in wishing these ladies all the best as they begin to re-build the WIE and will offer your assistance and encouragement at every opportunity.

New Women In Engineering Officers:

<p><u>WIE Chair:</u> Liang Xi Downey</p> <p>General Motors IT Project Manager</p> <p>lxdowney@ieee.org</p>		<p>Liang Xi Downey earned a Master Degree in Electrical Engineering in 1993 from Clarkson University in New York and a B.S degree in semiconductor devices and physics from Tsing Hua University. She was Vice Chair of the Engineering Medicine Chapter 2012-2013. She represented SEM in the Technology Management Council, 2007-2008. She was chapter chair/vice chair for Engineering Management Society 2005-2008. She helped coordinating key note speakers for many SEM Spring/Fall conferences. Liang has worked at IBM, Wind River and Mentor Graphics. She is an IEEE senior member and a mother of 2 daughters.</p>
<p><u>WIE Vice-Chair:</u> Mitra Mirhassani</p> <p>Associate Professor EE Department University of Windsor</p> <p>mitramir@uwindsor.ca</p>		<p>Mitra Mirhassani (S'07–M'08) received the Ph.D. degree from the University of Windsor. The focus of her research was on the development of a new type of arithmetic more suitable for implementing neural networks. She is currently an associate professor at the Electrical Engineering Department, University of Windsor. Her current research interests include neural networks, smart vision, mixed-signal arithmetic, signal processing, and low-power low-noise computer arithmetic.</p>
<p><u>WIE Secretary:</u> Peng Zhang</p> <p>Senior Design Engineer for Electric Machines: General Motors</p> <p>peng.zhang@gm.com</p>		<p>Peng Zhang (S'09–M'14) received her Ph.D. degree in electrical engineering from Marquette University, Milwaukee, Wisconsin, USA.</p> <p>Dr. Zhang's research interests include the design optimization of permanent magnet machines, modeling and analysis of electric machines and adjustable-speed drives, as well as fault diagnostics and fault tolerant capability study of electric machines.</p> <p>Dr. Zhang was the recipient of a Prize Paper Award from the IEEE Industry Applications Society Electric Machines Committee for 2012.</p>
<p><u>WIE Treasurer:</u> (Temporary) Kimball Williams</p> <p>Self-appointed "Curmudgeon at large" for IEEE SEM:</p> <p>k.williams@ieee.org</p>		<p>Kimball Williams earned his BSEE degree from Lawrence Technological University in Southfield, MI in night school while working full time and raising 5 Children. He is a Senior LIFE Member, Past Chair for IEEE Southeastern Michigan Section and an EMC Society Past President. Currently serving as the self-appointed "Curmudgeon at large" he persists in making trouble everywhere he goes. Retired in February 2012 as a Technical Fellow from DENSO Corporation. Principal EMC Engineer for Eaton Corporation for 26 years, Principal Designated Engineer for Underwriters Laboratories for 3 years. Senior Manager and Technical Fellow for DENSO for 10 years.</p>

University of Michigan – Dearborn: Student Branch

Since its founding in 1959 with a gift of just over 200 acres from Ford Motor Company, University of Michigan-Dearborn has been distinguished by its commitment to providing excellent educational opportunities responsive to the needs of southeastern Michigan. Shaped by a history of interaction with business, government, and industry of the region, University of Michigan-Dearborn has developed into a comprehensive university offering bachelor's, master's, doctorate and professional degrees in arts and sciences, business, education and engineering and computer science.

One third of the campus, more than 70 acres, is maintained as one of the largest natural areas in metropolitan Detroit, serving as a research and educational resource for the campus and the region. The Henry Ford Estate, home to the automotive pioneer and his wife, Clara, for more than 30 years and a National Historic Landmark, is located within the University of Michigan-Dearborn campus. A part of the [Metro Detroit](#) region, UM-D is also known for its community engagement within the city of Detroit, and is part of The Coalition of Urban and Metropolitan Universities

(Excerpted from UofM-D online page <http://www.umd.umich.edu/aboutus>)

The IEEE Student Branch

The IEEE Student Branch was started a long time ago in University of Michigan-Dearborn but it was brought back to life by several dedicated and passionate engineers in 2003-04 and it has been very active ever since. The student branch regularly organizes seminars and conferences and is also a member of the Engineering Organization Committee (EOC) at the university and celebrated Engineer's Week in February. Also we have our board members trying to establish collaborations with other groups on campus for social as well as technical events.

Mission Statement

We, the members of the branch resolve to put in our best foot forward in anything that we undertake and strive to excel in all our endeavors. We hope to become excellent engineers and responsible citizens and strive to help make our future generation better than ours.

Branch Activities

The Branch has a very active participation and the ECE department has helped us immensely in bringing up things by a notch. . The branch recently organized a two 2 week workshops on Matlab and Simulink which was very useful for many undergraduate and graduate students. We would like to thank the ECE department and the chair Dr. Yi Lu Murphey as they have recently agreed to sponsor a table at the upcoming spring conference 2014 to increase the enthusiasm and zeal among the members.

Member's Meeting Schedule

Meetings are held every Friday at the University Center in room 2190 on the second floor. If you are interested you could just walk in at that time and you could be a member. It is that simple!

Past Events

- 2 week seminar on Matlab.
- 2 week seminar on Simulink.

Upcoming Events

- Sponsoring along with ECE Department for IEEE Spring Conference.
- Embedded Systems Seminar.
- C++ Seminar and Workshop

Club Activities

The Club Activities this semester included setting up of our Website by our very talented Webmaster Jordan Rathwell and working on Student Network Project initiated in the branch by our chair Nevrus Kaja. The club also took part in recruitment drives and it was a part of the celebrations for Engineer's Week to increase the membership and promote the chapter.

U/M-Dearborn Student Officers:**Nevrus Kaja- Chair**

Nevrus Kaja is an undergraduate student at University of Michigan Dearborn majoring in Computer Engineering. He is graduating this month and starting his Graduate Studies in Computer Engineering as well. Although he is an undergraduate student, he has been very successful in the research arena. In 2013, under Computer Architecture Lab at University of Michigan Dearborn he was able to present his research on electronic nose for robots at a conference in China. Also, he has been presenting his research activities in other domestic conferences and symposiums such as the one that was sponsored from IEEE-Computer Society in Seattle, WA (TAPIA Conference).



Under the section he is working in collaboration with the Director of Student Activities (Nevrus is also training to take this position next year) on the Student Network Project. This project has turned out to be a success for our Section and the Region has expressed interest to fund it and implement it in other sections as well.

Under Student Branch Chair, Nevrus has organized two 2-week Seminars in Matlab and Simulink. These seminars have been a great introduction for the participants and have been very successful and helpful and this was shown by the number of students who attended them.

Nevrus is looking forward to develop a full career leading to a PhD in Southeast Michigan and at the same time he is promising to be active in IEEE for the rest of his career.

Eiman Hairston- Vice Chair

Eiman Hairston is the Vice Chairperson for the IEEE Branch at UMD, and is currently sophomore. Eiman has a passion for music and he has chosen electrical engineering in order to study music engineering and wants to become a well-rounded musician/producer. He wants to show people that there is more to an engineering degree than what meets the eye.

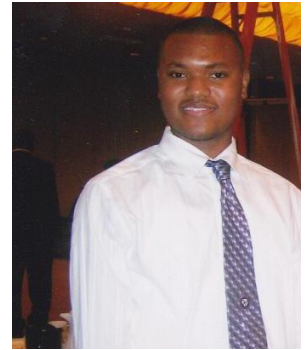
Srimathi Srivatsan – Secretary

Srimathi Srivatsan moved to the United States of America from India to pursue her Master's in Electrical Engineering. She is also a part of the Intelligent Systems Club and will be taking up the position of the corresponding secretary of Eta Kappa Nu for this year. She has played a major role in assisting the chair and the vice chair in planning and organizing the activities and the events. For the future, Srimathi aims at gaining some industrial experience and would eventually like to pursue a Ph.D. and continue being an active IEEE member. Her dream is to play a key role in inventing something that makes a difference to this world. In her free time Srimathi enjoys travelling and reading.

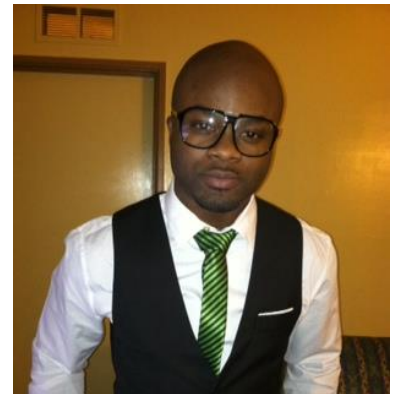


U/M-Dearborn Student Officers - Continued:**Jordan Floyd - Treasurer**

Jordan Floyd is an undergraduate student at the University of Michigan Dearborn majoring in Industrial Systems Engineering. He is also a member of the Nation Society of Black Engineers chapter at U of M Dearborn. He had been the treasurer for IEEE and NSBE since June 2011. He has helped organized and assisted professors with IEEE seminars including MATLAB, Simulink, Embedded C, Digital Forensics, and PSpice. He has volunteered his time to give back to the community by feeding the homeless, planting trees and plants, recycling materials, and cleaning up parks and buildings. He will be graduating in December 2014.

**Anthony Awosika - Events Coordinator**

Anthony Awosika is an undergraduate student in University of Michigan-Dearborn College of Engineering Department. He is pursuing a degree in Computer Engineering. Anthony has been very active in different organization on campus. He has successfully blended the demand of school work with the requirement of student organizations. As a member of 2014 Formula SAE team, he help with building the first electric car that is ever made in the university. A longtime member of IEEE, in this semester Anthony became one of its leaders. He acquired the position of Event Coordinator. It has led to the success of many planned events on campus. Anthony will be graduating from the College of Engineering later this month. He then will pursue a master's degree in Business Administration. He hope to be a lifetime member of IEEE so that he can help to coach the new generations of engineers to come.

**Jordan Rathwell - Webmaster**

Jordan Rathwell is currently pursuing a Bachelors of Science in Electrical Engineering at the University of Michigan Dearborn. Before transferring to UMD he completed an Associates of Science in Mathematics and an Associates of Applied Science in Automotive Technology at Macomb Community College. Since transferring to UMD Jordan has taken an active role in the on-campus student organizations. He is currently serving this student branch as our webmaster; he is a part of the UMD Formula-Electric racing team, and is scheduled to serve as webmaster for our local branch of Eta Kappa Nu for the coming term.

In looking towards the future, Jordan anticipates the need for post bachelor level studies. However with interests ranging from network programming, to automotive racing, and entrepreneurial endeavors, he plans on waiting to see how the future unfolds so as to pursue the most sensible path.

Fall Section Conference

IEEE Southeastern Michigan (SEM) Section is seeking someone to lead and/or host the IEEE Southeastern Michigan Section 2014 Fall Conference.

The Section Conferences are produced by the Southeastern Michigan Section with the intent to provide a variety of IEEE related opportunities.

The Southeastern Michigan Section executive members, in the form of the Conference Committee, will help the host to develop the technical program, speaker arrangements, arranging for posters, venue arrangements, marketing the event, managing registrations and publication of the Conference booklet.

If you are interested in hosting the next SEM Conference, please contact the Chair of the Conference Committee: **Raju Brahmandhabheri**, bvraju212@yahoo.com

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Section Volunteer Options:

The Electronic Media Sub-Group of the **Communications & Marketing Committee** is looking for several new members who are willing to learn and grow into the following positions:

LinkedIn Page Coordinator
Facebook Page Coordinator
ListServ Operations Coordinator
On-Line-Community Coordinator

Each of these positions will be an active function with significant responsibilities to maintain and facilitate communications among our members.

Interested members should use the link below to indicate your interest, and the Nominations and Appointments Committee will contact you:

<https://ieee.fluidsurveys.com/s/sem/committee/?code=>

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Region 4&7-Windsor Meeting

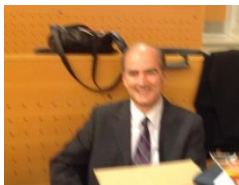
Since the events of 9/11 active participation for Canadian members in Southeastern Michigan Section IEEE activities has become difficult at best. Leadership in both Region 4 and Region 7 expressed concerns and discussed alternatives. One possible action to alleviate this situation would be to realign Windsor and Essex County with Region 7.

A survey of the wishes of all IEEE Canadian SEM members was requested by members of the Windsor and Essex County IEEE membership. The survey has been conducted, and the results are forthcoming soon.

Meanwhile, Region 4 and 7 leadership requested a meeting to seek the direct input from Windsor and SEM members on this proposal.

The meeting convened on April 15, 2014, between 1 PM and 3 PM and give representatives from Region 7 a chance to acquaint Windsor and Essex Counties an introduction to the services and options that would be available to them, if they were to become Region 7 members.

Amir Aghdam, President of IEEE Canada opened the meeting welcoming everyone to the discussion. He explained that this was to be an informational meeting and that it would be followed by an additional meeting after the results of the survey to all SEM Canadian members had concluded.



The discussion of the options was led by **Maike Luiken**: Region 7 (Canada) Student Activities Chair. Maike explained the support and benefits available to Region 7 members as well as the particular support Canada provides to its student members.



Cathie Lowell, Region 7 Administrator, provided details and back up information to help answer specific questions from attendees.



Don Bramlett: Region 4 Advisor to Southeastern Michigan Section confirmed and supported the information provided and offered both Region 4 and SEM support for any decision made by Windsor members.



Murray MacDonald, Chair of the London Section discussed some of the potential benefits of alignment of the Windsor community with his Section, in particular the existence of an experienced management structure that is in place and running.



A further discussion followed outlining the general options and requirements needed to align the Windsor and Essex county IEEE membership with IEEE Canada as well as ways and means to provide continued support from Region 4 & Southeastern Michigan Section.



Near the conclusion of the meeting, Dr. Esam Abdel-Raheem of the University of Windsor declared his intention to pursue the options for a possible realignment of Windsor and Essex counties with Region 7. A small committee of other Windsor members was formed, and initial plans follow on activity agreed.

IEEE SEM Canadian members wishing to work with Dr. Abdel-Raheem on this activity should contact him at: eraheem@uwindsor.ca

Name	Office	e-mail
Amir Aghdam	President IEEE Canada (Region 7)	aghdam@ieee.org
Don Bramlett	Region 4 Advisor	d.bramlett@ieee.org
Cathie Lowell	Region 7 Administration	c.lowell@ieee.org
Maike Luiken	Region 7 Student Activities	maike.luiken@ieee.org
Murray MacDonald	Chair London Section	murraymacdonald@ieee.org

EMC Summer 2014 Short Courses

LEARN EMC Summer 2014 Short Courses

LearnEMC Short Courses for June 2014

Electronic Systems Design for EMC Compliance

June 10-11, Detroit, Presented by Todd Hubing, *Early registration: April 7*

Computer Modeling Tools for Electromagnetic Compatibility

June 12, Detroit, Presented by Todd Hubing, *Early registration: April 7*

Information and registration: www.LearnEMC.com



Electronic Systems Design for EMC Compliance *(June 10-11, Detroit)*

Printed circuit board layout is often the single most important factor affecting the electromagnetic compatibility of electronic systems. This two-day course stresses fundamental board design concepts and tools to help reduce or eliminate electromagnetic compatibility and signal integrity problems. In this course you will learn to properly place components and route traces, as well as design effective power distribution and grounding strategies for both digital and mixed-signal boards.

Computer Modeling Tools for Electromagnetic Compatibility

(June 12, Detroit) This one-day course covers electromagnetic modeling codes, circuit solvers, rule checkers, analytical modeling tools, web-based calculators and apps. Examples are provided demonstrating the application of various modeling tools to real-world EMC design problems. Upon completion, you will be aware of available tools for EMC design and analysis of electronic systems and be able to make good decisions regarding appropriate tools for specific needs.

Dr. Todd Hubing is the Michelin Professor of Vehicle Electronics at Clemson University and Director of the Clemson Vehicular Electronics Laboratory.

For more information, please visit www.LearnEMC.com.

EMCfest 2014



The Southeastern Michigan
EMC Chapter Proudly
Presents:

EMCFest '2014

**Novel and
Practical
Approaches to
EMC Design and
Troubleshooting**

A Tutorial and Exhibition
With Honored Guest Speaker

Doug Smith

EMC Consultant

Thursday, May 8, 2014

At

**Canton Summit on the Park
Canton, Michigan**

46000 Summit Parkway
Canton, Michigan 48188
(734) 394-5480

*IEEE Electromagnetic
Compatibility (EMC) Society.*
EMCFest'2014 Home Page:

<http://www.emcfest.org>

Register On-Line!

Program Agenda

- 7:30 Register & Breakfast
- 8:30 General lab measurements
- 10:00 Break & Exhibits
- 10:30 Quick bench top emissions
- 12:00 LUNCH
- 1:00 Switching Circuit Noise
- 2:30 Break 7 Exhibits
- 3:00 Electrical Resonances
- 4:30 Reception
- 5:00 Close of EMCfest

**Novel and Practical
Approaches to EMC
Design and
Troubleshooting**



Mr. Smith held an FCC First Class Radiotelephone license by age 16 and a General Class amateur radio license at age 12. He received a B.E.E.E. degree from Vanderbilt University in 1969 and an M.S.E.E. degree from the California Institute of Technology in 1970. In 1970, he joined AT&T Bell Laboratories as a Member of Technical Staff.

He retired in 1996 as a Distinguished Member of Technical Staff. From February 1996 to April 2000 he was Manager of EMC Development and Test at Auspex Systems in Santa Clara, CA.

Mr. Smith currently is an independent consultant specializing in high frequency measurements, circuit/system design and verification, switching power supply noise and specifications, EMC, and immunity to transient noise. He is a Senior Member of the IEEE and a former member of the IEEE EMC Society Board of Directors.

His technical interests include high frequency effects in electronic circuits, including topics such as Electromagnetic Compatibility (EMC), Electrostatic Discharge

(ESD), Electrical Fast Transients (EFT), and other forms of pulsed electromagnetic interference. He has been granted over 15 patents, several on measurement apparatus.

FEE SCHEDULE

Members, before April 24	\$40
Non Members, before 24	\$50
Full -time Students	\$25
Unemployed / Retired Member	\$25
CEU Certificate Only	\$25
Registrations after April 24 th	\$100

Register On-Line!

The registration fee includes one copy of the tutorial record, continental breakfast, lunch, and reception. The organizing committee reserves the right to substitute speakers, restrict size, or to cancel the tutorial. In the event EMC Fest 2009 is canceled by the organizing committee, registration fees only will be fully refunded. Individuals canceling their registration prior to April 24 will receive a full refund.

No refunds will be made to individuals who cancel their registration after April 24.

Attendance is limited. Registration will be confirmed on a first come, first served basis.

www.emcfest.org

HAMPTON INN & Suites in Canton is offering reduced room rates for reservations. Special Room rates of \$139.00 are available (standard room), plus tax. Internet, Lifetime Fitness exercise pass and breakfast are free. There are a LIMITED number of hotel rooms at this price. You must mention "EMC" to get this special rate and reserve your room by April 27. After which rooms and rates are subject to availability. The Canton Comfort Suites Hotel is located 11 miles from Detroit Metropolitan Airport. From I-275 take exit #25 (Ford Road/Mi-153) West. Travel approximately 1/4 of a mile to Haggerty Road. Turn left on Haggerty Road and proceed approximately 400 yards. Hampton Inn will be on the left .

Contact 734-844-1111 to make arrangements. Airport shuttle is available every 60 minutes 24/7 for FREE through the hotel. Call 734-844-1111 for pickup at ground transportation. A free Hotel shuttle will also be available to and from the Summit.

Section Activity:

Here we have collected memories of some of the recent activities in the Section.

Chapter 8:



Scott Lytle, Chapter 8 Chair, greets Jay Diepenbrock, distinguished lecturer of the EMC Society. His presentation “Signal Integrity Characterization, parameters and techniques” held the attention of the assembled member of the Chapter.



Consultants Affinity Group:

The Consultants Network presented Nancy M. McClain, PE, president of the Michigan Chapter of the Society of Professional Engineers speaking on “Obtaining Your Professional Engineering License” and discussed the new Michigan requirements for continuing education necessary to retain your PE license.



Don Bramlett, Section Advisor presents a leadership lecture to assembled Consultants.

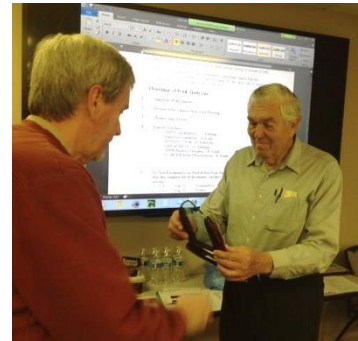


Standards Committee:

Members of the Automotive EMC Standards Committee honored Poul Andersen retired of Chrysler Corp. for his 30+ years of service in helping create and align automotive EMC standards that have become accepted world-wide.

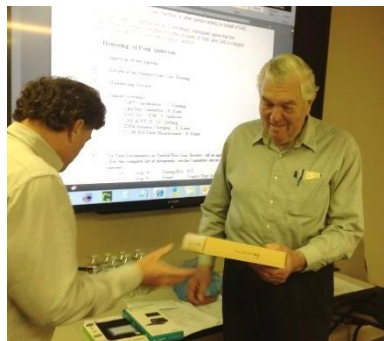


Rob Kado lead EMC engineer of Chrysler presents Poul with a thank you certificate of recognition from the American National Standards Association for his long service to international standardization.



Keith Frazier lead EMC engineer of Ford Motor Company presents a plaque from the International Electrotechnical Commission and the SAE, IEEE Standards association.

On left: **Craig Fanning** Lab Manager for Elite Electronic Engineering presents Poul with a ‘Tablet’ containing photos of collected standards meetings from the past 30 years from all the international experts he has worked with in his career.



About Management:

Policy, Procedures, Manager, Administrator, Leader:

Some confusion seems to exist with respect to several terms we often see used to refer to both the governance documents used to guide and control an organization and the functional positions of a manager, an administrator and a leader. Here we discuss the relevance of the terms, and their place in creating an effective and flexible organization

Governance:

Over time, the evolution of methods to ensure that large, diverse organizations function smoothly and toward a common purpose has resulted in two interlocking structures. One is procedural, the other is communal.

Procedural Systems:

The procedural system is most often captured in the organizations guiding documents which fall into four categories, Global, Strategic, Tactical and Functional. These are designed to guide the most common activities. Let's look at each in a bit of detail.

Policy: (Global Vision):

The guiding principle of the organization is usually captured in a vision or mission statement. This is the fundamental reference when any questions arise as to whether a present course or action is aligned with the overall intention of the group.

It is not unusual for individual teams within a large organization that develop their own vision and mission statements. These provide a unique focus which aligns with the overall 'global' vision of the organization. (The descriptions below for Strategic, Tactical and Functional procedures apply at all levels of the organization.)

Strategic:

The overall direction intended to achieve the organizations vision is usually expressed as a goal, or more often, a set of goals.

Tactical:

Objectives sub-divide goals into more manageable tasks which allow focused activity, the development of specific plans, establishment of milestones, etc.. We often see the goals and objectives combined into a single, compact document that includes a mission statement.

Functional Procedures:

Procedures evolve as the means of capturing an organization's operational methods. In contemporary organizations these usually take the form of a 'standard' set of documents:

- Operations Manuals
- Organization Charts
- Job Descriptions
- Membership lists & Rosters
- Operating Budgets
- Operating Handbooks
- Functional 'Tools'
- Etc..

Communal:

The above constitute what is often referred to as the 'Set of Procedures', and are designed to guide the most common activities and day-to-day operations. However, as often quoted from Helmuth James Graf von Moltke; *"No battle plan ever survives contact with the enemy."*

This truism expresses two factors that prevent any documented system from maintaining complete relevance to all situations.

The first is the inevitable "phase delay" that must exist between a constantly changing environment or field of activity and the creation of a well thought out, and captured procedure for handling a situation.

The second is our limited view of possible future alternatives. This was best expressed by Lewis Carroll when he wrote; *"It's a poor sort of memory that only works backwards."* If this were not the case, we could write procedures to handle all past, present and future conditions. But, until

someone finds the mythical 'crystal ball' that allows us to predict the future with complete assurance, some other methods of adjusting team reactions to changing conditions needs to be in place. That method is referred to as 'Management'.

Manager:

Since it is obvious that no documented set of procedures can anticipate all conditions and provide the needed guidance, we seek to establish groups of leaders with the experience, background and training that will allow them to develop solutions to new hazards and adjust to changing situations. We call them 'managers'.

We ask that these individuals 'manage' the new situation by directing the rest of their organization toward the optimal solution to new problems. To do that, the 'manager' must also be a master of the current operating systems. He must be a good administrator.

Administrator:

A good administrator understands the overall organization, its vision, goals and objectives, and is adept at using all the functional tools that have been put in place to accomplish the mission. This also means that he is good at 'bean counting', and can ensure that the operations are working within the constraints of both the financial and personal limitations that constitute the reality of the situation in which he finds himself and his team.

One of the primary attributes of a good administrator is prompt and timely action to maintain the currency of the functional systems that document and direct overall operations such as updated plans and regular reports. These systems form the 'feedback loop' for the organization, and help eliminate the need for managers to constantly check to see if they need to 'adjust' the direction of their teams.

Leader:

Part of being a good manager and administrator involves perceiving that changing conditions may fall outside the current operating guidelines and procedures, and that there is a need to develop new directions or modify the team's direction to continue to accomplish the overall vision. As a leader, it will be your responsibility to guide your team through new situations, and to train them in new ways to operate. To quote Jack and Suzy Welch; "*When you become a leader, success is all about growing others.*"

In the ideal manager, we would seek an experienced individual who's understanding of the team's goals and objectives agree with the global vision, who has command of the operating procedures, can administer the tools to keep the operating systems current, and keeps 'in touch' with both the current conditions of the world around as well as the individual members of his team.

Coach:

From the start of taking command, one of the primary concerns of a leader will be grooming his team members to step up and take over his job. To a great extent, management is a training function, and a prime objective is to nurture future leaders and managers from among his team. Just as a sports team is always training players who are 'on the bench', a prudent manager is always preparing his team members to take over alternative positions when one of the team is ill, on vacation, accepts a job in another country, has an accident, etc..

Only by preparing his team members to 'cover' each other's functions, and his job, can the team continue to operate smoothly when unexpected interruptions occur.

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Executive Committee

The SEM Executive Committee is the primary coordination unit for Southeastern Michigan (SEM) IEEE operations. The basic organization chart below shows the 2014 arrangement of communications links designed to provide inter-unit coordination and collaboration.

The SEM Executive Committee meets in a teleconference each month on either the first Wednesday (Even numbered Months) or first Thursday (Odd numbered months) at Noon. The meeting times, phone or WebEx numbers and log in codes are published on the IEEE SEM Website calendar: <http://sites.ieee.org/sem/> Click on the 'Calendar' button in the top banner on the Website first page.

If you wish to attend, or just monitor the discussions, please contact David Mindham, the Section Secretary at: dmindham@ieee.org and request a copy of the agenda and minutes.

More meeting details are available on the next page of this newsletter.

Other Meetings:

Most of our members maintain memberships in one or more of the IEEE Technical Societies, which automatically makes them members of the local Chapter which is affiliated with that Society. As a result, they should receive notices of those meetings each month.

However, most of our members are not 2-dimensional beings, with only one focused interest. That means that they would likely find meetings of the other Chapters also of interest. In order to communicate those options to

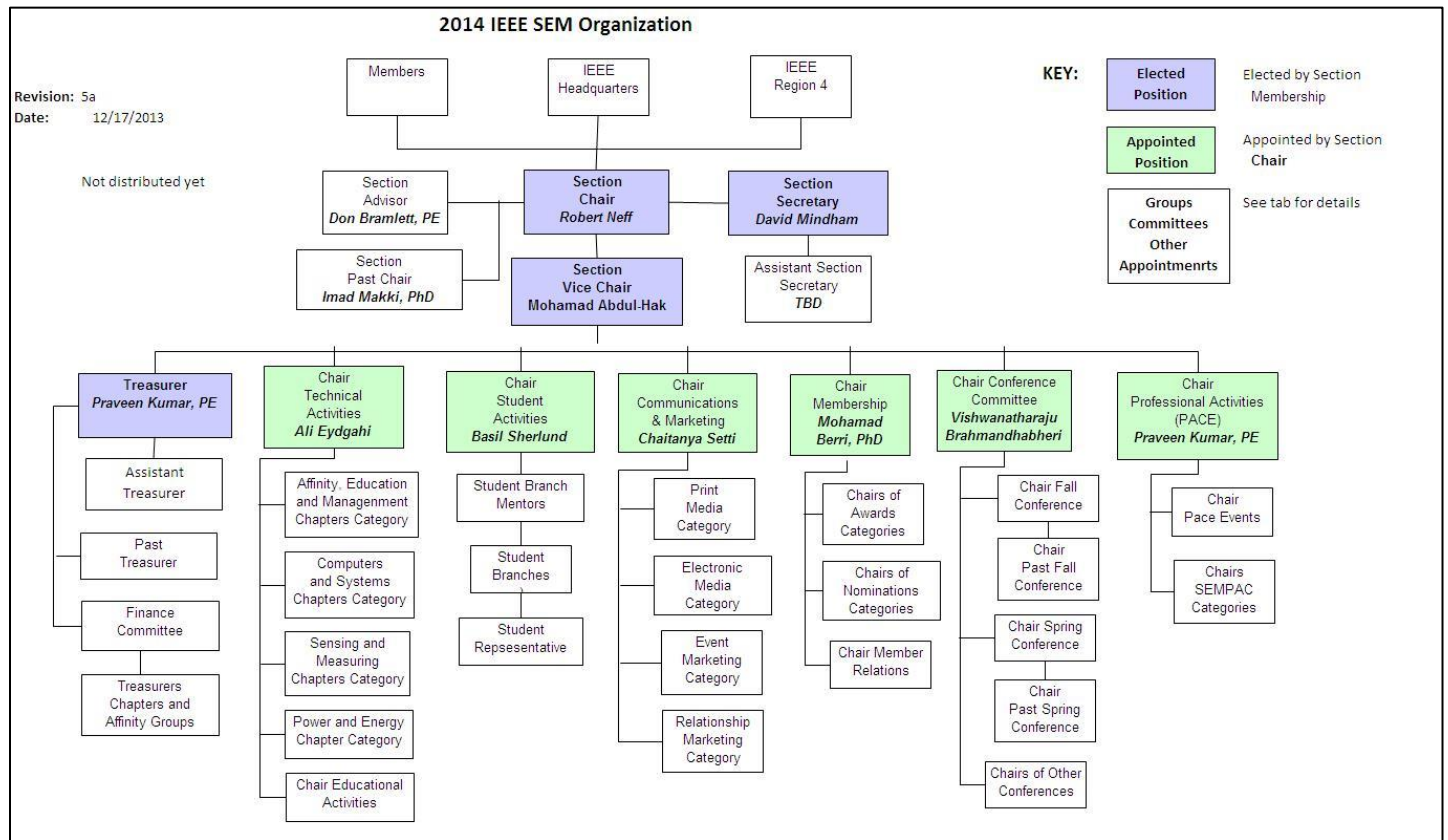
our members and facilitate their attendance we ask each of our Chapters to send their meeting information to our Webmasters who post the meeting information on the Website Calendar.

More detailed information on meetings may be found by using the IEEE meetings site. This may be found through the IEEE SEM Website: <http://sites.ieee.org/sem/> and clicking on the **SEM meetings list** button near the bottom of the left hand banner.

You may also set up automatic e-mail notifications of web updates by using the "Email Notifications" button at the top of the **SEM Tools/Links** side banner.

David Mindham - SEM Secretary

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Section Mission & Goals**Section Focus:**

The IEEE SEM Senior Officers of the Section have reaffirmed the overall Mission and Goals of the Section, which align with the overall objectives of IEEE worldwide and with the guidance provided by our leadership in Region 4.

You have probably seen the Mission and Goals before. However, it is important to keep these clearly in mind and remind ourselves often that this is what we are about and what we are trying to accomplish.

Section Mission

Inspire – Enable – Empower and Engage Members of IEEE at the local level.

For the purpose of:

- Fulfilling the mission of IEEE (... **foster technological innovation and excellence for the benefit of humanity.**)
- Enhancing the members' growth and development throughout their life cycle
- Providing a professional home

Section Goals

- Increase member engagement,
- Improve relationships with and among members,
- Increase operational efficiency and effectiveness, within the section and its interfaces,
- Enhance collaboration – serve as the local face of IEEE to the community,
- Increase membership,
- Ensure the collection of appropriate information necessary to assist the IEEE to become a data driven organization.

It is now the task of the Section leadership to guide and coach all Section officers and elements to focus their activities on achieving those goals.

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SEM ExCom Meetings**Scheduled Meetings:**

The regular meetings of the SEM 'Leadership' ExCom (Executive Committee) are scheduled well in advance to allow everyone to place them in their personal planning calendars, and then defend those dates against encroachment. (*Not always possible.*)

Two types of ExCom meetings are normally scheduled:

Monthly Teleconference / WebEx as well as:
Quarterly Face-to-Face.(See Below)

Note: All IEEE meetings are 'Open' for all members to attend.

The only caveat is that you please register using the specific meeting form found at:

<https://meetings.vtools.ieee.org/main>

This is to ensure we have sufficient space, refreshments and support for everyone who attends.

Teleconference Schedule (held from 12-1 PM):

- Wednesday, May 7th
- Thursday, June 5th
- Thursday, August 7th
- Wednesday, September 3rd
- Wednesday, November 5th
- Thursday, December 4th

F2F Meeting Schedule:

- **Thursday, April 3rd**
- Wednesday, July 9th
- Thursday, October 2nd

More information for the f2f meetings will be sent out as the dates are approached. Keep in touch via the SEM Web site (<http://sites.ieee.org/sem/>) or use the links to the SEM Facebook or LinkedIn pages on the SEM Web page.

vTools Schedule:

All the normally scheduled meetings of each of the other Section 'units' are listed each month in the vTools area of our SEM website at:

http://ewh.ieee.org/r4/se_michigan/calendar1.php

These announcements refer to:

- Standing Committee Meetings:**
- Affinity Group Meetings:**
- Technical Chapter Meetings:**
- University Student Branch Meetings:**

Calendar Schedule:

Meetings are also announced on the SEM Web page Calendar

<http://sites.ieee.org/sem/>

(Select the "SEM Calendar" button in the top row.)

Note: Often meetings of the 'Executive Committees' of Chapters and Affinity Groups (and standing committees, of course) are listed only in the 'SEM Calendar' page, since it is felt that most members would not wish to sit through the 'administrative' meetings. However, if this type of meeting is just your 'cup of tea', then contact the officers of the unit that is conducting the meeting, and ask to be 'linked' into their teleconference, SKYPE, Google Hangout, or WebEx meeting. They would be happy to have you as a participant.

Many volunteers get interested in Section activities when they get a chance to attend an ExCom meeting and 'peek under the hood' to find out how the machinery of the Section actually runs. It can be a rewarding experience.

David Mindham

SEM Section Secretary.
dmindham@ieee.org

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Editors Corner

This is the 5th 2014 issue of the Wavelengths newsletter.

Earlier editions in this series may be found on the IEEE SEM Web page at: <http://sites.ieee.org/sem/>. Click on the "Wavelengths" button in the top row of selections.

Comments and suggestions may be sent to the editor at k.williams@ieee.org. We also recommend a cc to the Chair of the Communications and Marketing Committee, **Chaitanya Setti** at: chaitanyagini@ieee.org.

The newsletter does not have a staff of reporters to 'investigate' what is going on in the Section and write up informative articles.

We rely on our Officers and Members to provide the 'copy' that we finally present to our readers as the newsletter.

Wavelengths – Focus Plan:

Month	AG's	Ch's	Ch's	SB's	Special Notice	Reporting Events	Monthly Focus	Awards
Jan		1		U/D-M	Future Cities Judges	Election Results	Resolutions	
Feb	Cons	2		MSU	Science Fair Judges	Officer's Welcome	Surviving Winter	Future Cities
Mar		3	13	U/M-AA	Spring Conf. Flyer	Spring Conference	Spring Conference	Science Fair
Apr		4		WSU	National Engrs Wk.	Future Cities	Chapter Focus	GOLD Award
May	Life	5	14	LTU	Outstanding Eng Awd	Science Fair	Humanitarian	New Fellows
Jun		6		SCC	IEEE-USA Apmts.	ESD Banquett	Leadership Skills	SEM Awards
Jul		7	15	U/W	Nominations Call	MD-Webcasts	Students Issues	Region 4
Aug	WIE	8		OU	MGA - Apmts.	Tech-Webinars	Womens Issues	
Sep		9	16	EMU	Region 4 Apmts.	Engineers Day	Professional Skills	
Oct		10		ITT	Fall Conf. Flyer		Fall Conference	
Nov	YP	11	17	U/M-D	ELECTIONS!			
Dec		12			IEEE-Com Apmts.	Fall Conference	Happy Holidays	

Wavelengths – Personal Profiles:

Month	Profiles	Profiles	Committees
Jan	Chair	New Officers	
Feb	V-Chair	Secretary	Communications
Mar	Treasurer	Sect-Adviser	Conference
Apr	Stud-Rep		Education
May		Sr Officers	Executive
Jun			Finance
Jul			Membership
Aug			Nominations
Sep			PACE Activities
Oct			Student Activities
Nov			Technical Activities
Dec		Editor-WL	

The **Wavelengths – Focus Plan and Personal Profiles** plan shown in the matrix below is conceived as a method to ensure a reasonable coverage of normally expected Section activities and events.

We try to finish each issue assembly by the week before the first of each month to allow time for review and corrections. If you have an article or notice, please try to get it to us on time, or early if possible.

The plan below relies on the contributions of our members and officers, so please do not be shy. If you have something that should be shared with the rest of the Section, we want to give you that opportunity.

Letter to the Editor:

We would like to see "Letters to the Editor" as a regular column but, of course that means that someone must send an e-mail to the editor...[hint!](#)

Co-Editors:

I am selfishly looking for someone interested in helping to edit the newsletter along with me who can learn the process, share in the duties, and help keep the newsletter alive and lively by providing an alternative point of view.

If you feel you might be that person, or would like to train to become that person, please let me know.

k.williams@ieee.org

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Web & Social Sites

SEM Website

<http://sites.ieee.org/sem/>

Each of the sites below may be accessed through the SEM Website:

Section Website Event Calendar

(Select the “SEM Calendar” button - top row.)

SEM Facebook Page

(Select the “” button under the top row.)

SEM LinkedIn Page

(Select the “” button under the top row.)

SEM Officers:

For a complete listing of all - Section - Standing Committee - Affinity Group - Chapter and Student Branch **officers**, see the SEM Officers Roster on the SEM web page under the “About SEM” button and select “Current Officers”.

SEM On Line Community

<http://sem.oc.ieee.org/>

‘ExCom’ Officers

Section Chair
Robert Neff

Section Secretary
David Mindham

Section Vice-Chair
Mohamad Abdul-Hak

Section Treasurer
Praveen Kumar

Section Adviser
Don Bramlett

Chair Communications & Marketing
Chaitanya Setti

Chair Conferences
Raju Brahmandhabheri

Chair Educational Activities
Chaomin Luo

Chair Finance
Bassel Atallah

Chair Membership
Mohamad Berri

Chair Nominations
Chaitanya Setti

Chair Professional Activities
Basil Sherlund

Chair Student Activities
Basil Sherlund

Student Representative
Hanan Mekawy

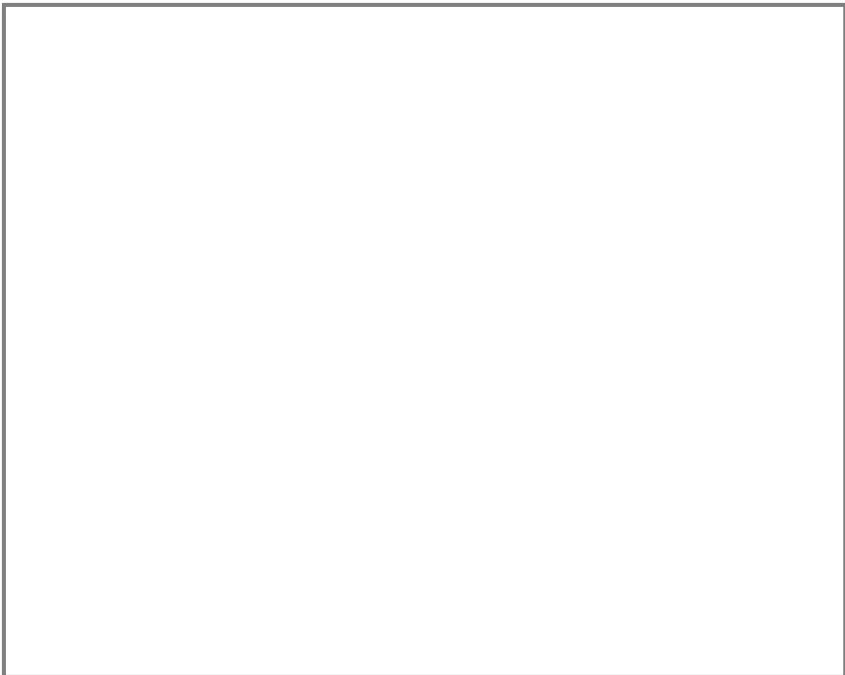
Chair Technical Activities
Ali Eydgahi

Past Section Chair
Imad Makki



IEEE Southeastern Michigan

Visit Us on the Web at:
<http://sites.ieee.org/sem/>



Leadership Meetings

All IEEE members are welcome to join us at any regularly scheduled meeting:

Advertising Rates

SEM Website & Newsletter
 Advertising Rates / Month:

Our readers specify & purchase a wide range of electronic components, equipment and services. Our sponsors come from industry, education, and nonprofit organizations.

Full page \$500,

Half page \$250

Quarter page \$125,

Eighth page \$65.

SEM Executive Committee Monthly Teleconferences:

- 1st Thursday of Each Month @ Noon
- Check the Section Web Calendar at:
<http://sites.ieee.org/sem/>
 (Select the "SEM Calendar" button in the top row.)

SEM Executive Committee Face-to-Face Meetings:

- 1/Qtr. Usually held at U/M-D Fairlane Center
- Registration at:
<https://meetings.vtools.ieee.org/main>

SEM Standing Committee Meetings:

SEM Affinity Group Meetings:

SEM Technical Chapter Meetings:

SEM University Student Branch Meetings:

- Meeting schedules are announced on SEM Web Calendar
<http://sites.ieee.org/sem/>
 (Select the "SEM Calendar" button in the top row.)
- Registration for all at:
<https://meetings.vtools.ieee.org/main>