



Wavelengths

[SEM Calendar](#) [e-Wavelengths](#)

Volume 56 – Issue 7 July 2016

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Wavelengths Newsletter is produced by IEEE volunteers for SEM Members.
 Archive: <http://sites.ieee.org/sem/>

Section/Chapter Meetings, Webinars:

- SEM – 7/7 Executive Committee Face to Face [\(more\)](#)
- CH8 – 7/21 Wireless Device Test in Reverberation Chambers [\(more\)](#)
- CH7 – 7/14 Using public data on power grid and discussion [\(more\)](#)
- SEM – 8/3 Executive Committee Virtual Meeting [\(more\)](#)
- CH8 – 9/15 EMC Laboratory Statistical Process Control [\(more\)](#)

Conferences and Seminars:

- SEM - 7/9 Humanitarian Technology Conference [\(more\)](#)
- IEEE – 7/25-29 EMC International Symposium Ottawa, ON [\(more\)](#)
- Maker Faire – 7/30-31 Henry Ford Museum Dearborn [\(more\)](#)
- SEM – 9/19-21 Convergence Conference with SAE [\(more\)](#)
- SEM - 10/7 Women In Engineering Summit [\(more\)](#)

Career and Member Development:

- IEEE Collaboratec has updated messaging and features [\(more\)](#)
- IEEE Technical Communities to try at no cost for limited time [\(more\)](#)
- SEM - 7/13 Consultants Affinity Group Summer Networking Event in Royal Oak [\(more\)](#)

Positions Available:

- SEM list is available at link [\(more\)](#)
- ESD Job Bank [\(more\)](#)



Chair's Message

Chair's Comment:

Usually I use this space to promote upcoming events or encourage you to participate in the SEM organization, Chapters or Affinity Groups. This month I need to reiterate our financial procedures for obtaining funding from the Section.

Budget Process:

We have a budget process that starts in October and ends with ExCom approval in late December. During October, November and early December, Chapters, Affinity Groups and committees are asked to submit anticipated income and expenditures. Late last calendar year chapters and affinity groups were asked to respond with their needs for meeting expenses. Those that responded were shown in the budget with either a base amount of \$200 to cover meeting expenses or a higher amount for justified reasons. The approved budget is available in the On-Line Community (OLC) in the Financial Committee folder. If you need access to the OLC, please enter your request at the log in page.

If your Chapter, Affinity Group or Committee are pre-approved in the 2016 SEM Budget you may spend the money and submit an expense report with receipts to our treasurer Basil Sherlund.

Funding Requests:

If your Chapter, Affinity Group or committee did not respond during the budget process you do not have an pre-approved expenditure amount and the budget will show \$0 for your meetings budget. You must submit a proposal requesting approval of an expenditure that is accompanied with an explanation and justification for it. Nevrus Kaja is the chair of the Finance Committee. Basil Sherlund and myself, sit on that committee. If the Finance Committee approves the proposal, it then goes to the ExCom for approval. Only the ExCom can approve spending the Section's money. A PowerPoint PDF slide explanation is available in the OLC in the Finance Committee folder.

Up Coming Conferences and Workshops:

Plans are underway for some great events. Volunteers are welcome and needed. See the SEM web site www.ieee-sem.org for more details.

- Humanitarian Technology Conference is planned for July 9.
- Fall Conference planning is underway. Please contact Nevrus Kaja to volunteer, offer Chapter and Affinity Group speakers and help with the planning.
- Women in Engineering Summit is planned for this October. Please contact Liang Xi Downey to help in the planning.
- Student Activities Leadership Workshop is being planned. Please contact Nevrus Kaja for more information.
- IEEE SEM will participate in SAE Convergence, please contact Eugene Saltzberg, Chair Chapter 2.

I look forward to hearing from you and seeing you at our events. As always, your ideas and suggestions are encouraged and welcome.

Robert Neff

IEEE SEM Section Chair

RLNeff1@gmail.com

On-Line Newsletter Active!

On the front page you see a link to the e-Wavelengths <http://www.ieee-sem.org/egrid/> and see that the Wavelengths newsletter is changed. This is progress realized to have a dynamic calendar online for any device you have of a phone/tablet/PC for the IEEE SEM information. We have worked with Paul Wesling from San Francisco IEEE Section on this effort and it is built from a successful eGrid effort for several years in San Francisco.

However, we don't want to lose the monthly 'summary' publication. The plan is to 'capture' those elements that record what happened during the last 30 day period and 'lock' it in a PDF format that can continue to be our 'monthly newsletter' and social record of what has happened, while still giving everyone the most current new information possible.

If you are interested in being part of this evolution of SEM please see page 21 for our e-Wavelengths contacts and reply to us to participate. Your contributions are and response to format, suggestions are welcome.

Malcom Lunn

lunmalcolm@me.com

SEM Officers News

Using ListServ, eNotice and other Utilities for Communications

Many officers have used the 'ListServ' system for distributing messages to the IEEE SEM Geo-unit members. The ListServ system automatically distributes messages to multiple e-mail addresses (up to several thousand!) without the problem of 'rejection' by server systems when more than an arbitrary minimum number of e-mail accounts are included. If a server rejects a message, it is flagged as 'Spam'.

The system is useful, however, it requires regular updating, perhaps even on a daily basis when new members are added to the Geo-units in our section. Upon receipt of the IEEE SAMIEEE member database each month, up to about 20 to 30 minutes of volunteer time are required to update each of the ListServ files of the four affinity groups, 17 chapters and eight student branches.

IEEE introduced a new eNotice system for sections on June 3, 2016; it has desirable features for messaging to a large number of IEEE members. Most of the ListServ files for our Geo-units were deleted by IEEE IT, thereby requiring that the eNotice system be used for messaging. Geo-unit chairs and secretaries have been granted access to the eNotice system. Other section members needing access should contact their Geo-unit chair and request that they be given access as an 'eNotice Coordinator'. The chair will submit the request to the vTools team who will then grant use of the eNotice system.

The eNotice system and its implementation was discussed during recent IEEE SEM Section ExCom teleconferences and face-to-face meetings, however, some officers may not have had the opportunity to attend

the meetings. In the event that you have not had the opportunity to review the eNotice tutorial, or listen to the audio training file, they may be accessed via the vTools webpage at: <http://sites.ieee.org/vtools/>. A brief introductory tutorial text containing important directions is displayed upon selecting the eNotice tool. It is suggested that the entire introductory text be read before accessing the NEW version of eNotice for the first time. Another informative eNotice resource for new users is an audio training file that lasts only 4 minutes and 14 seconds. It is located on the SEM Training Material website, <http://sites.ieee.org/sem/about-sem/training/>.

eNotice is user friendly and does not require a lot of maintenance. It has an automatic member update system which delivers a message to all the Geo-unit members currently listed in the SAMIEEE database. It also has an 'Express' feature that may be used to send messages within two hours that do not have special requests or attachments; the feature allows enough time to have one of those...'Oh no!' moments and to recall or modify a message. Additionally, enter keyboard characters in the 'Title' of a message with caution; only alpha characters can be used in a 'Title'. Titles with non-alpha characters will be sent to the IEEE staff for timely review and processing.

Note the IEEE staff is required to review eNotice messages with attached documents before releasing them to the larger community; this will delay the sending of the message. The fastest way to send a message with a document is to place it on the website of your section,

chapter or affinity group, and then include the link in an eNotice message.

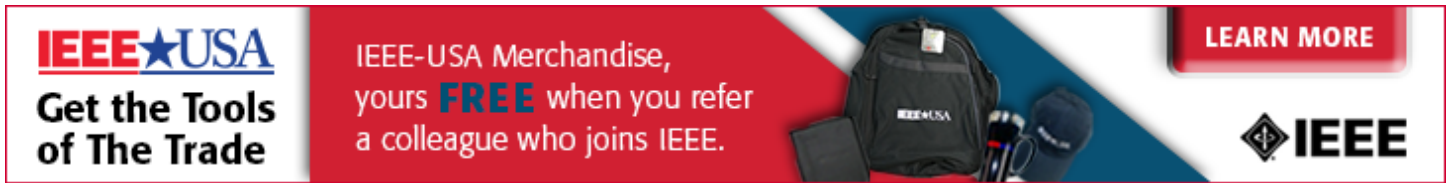
There are still a number of useful applications for the ListServ system. For example, the list of section officers has over 182 e-mail addresses which rarely change. ListServ continues to be desirable for communicating with officers when working on large committees and working groups. A few Geo-units continue to maintain their own ListServ systems with e-mail contacts for non-members that have 'interest' in their activities. Each Geo-unit secretary is able to establish and maintain a system for internal use.

Geo-units with 10 or less members can use a simple group e-mail utility, such as Google Chrome, Contact Manager, e-mail Group, etc. Some Geo-units have also developed Google groups or Collabratec groups that serve as document repositories and group communication portals.

Whatever method chosen, keep the communications flowing. They are the life-blood of your team.

k.williams@ieee.org

SEM Information Management
Coordinator

[Refer a Colleague - membership](#)

IEEE★USA
Get the Tools of The Trade

IEEE-USA Merchandise, yours **FREE** when you refer a colleague who joins IEEE.

LEARN MORE

IEEE

Refer a Colleague, Get Great Merchandise

Have you encouraged someone who has your interest in advancing technology to join IEEE? Now is the best time to do so. [Refer a colleague to join IEEE](#) today and they will get membership through December 2016 at half price.

As a gift from IEEE-USA, you have the option of receiving a piece of IEEE-USA merchandise when they successfully join. This is in addition to the monetary reward you earn from the traditional Member-Get-A-Member (MGM) Program!

The program is simple:

- Refer your colleague via the [online form](#).
- Your referral automatically receives an email inviting them to join IEEE.
- Your referral provides your IEEE member number as they join.
- Within a few weeks after your referral joins, you will receive an email confirming your recruiting success, with a link to select your IEEE-USA merchandise item.*
- You will receive a separate email for each new member you recruit.

Please help spread the word and share your IEEE experience - no one knows the benefits of IEEE membership better than you. [Refer your friends and colleagues today!](#)

**IEEE-USA gift items from which you can choose include a cooler backpack, computer backpack, tablet case, portable speaker, Parker pen and mechanical pen set, Parker ballpoint pen, golf balls, baseball hat, golf umbrella and travel umbrella.*

Important to know: There is no limit to the number of merchandise items you can earn; so long as your referrals join as professional members. Student members and Society Affiliates are not eligible for this promotion. You also remain eligible for the [MGM incentive awards](#) given out once per year in September.

Power Grid Public Data Discussion

Using Public Data to Calculate Real-Time Generator Emissions and Other Fun Facts about the Grid

The presentation will be on the North American Power Grid with an emphasis on work the author is doing with a team led by Wayne State University to develop methodologies (LEEM - <http://leem.today/>) for providing information to electricity users on the emission impacts of their usage. If they are so motivated users may in turn use this information to shift their usage in both time or space to reduce their emissions. In the process of describing LEEM the audience will gain an appreciation for the operation of the Grid and its components that even industry professionals are struggling with. The grid does not need to be a black box to utility managers, regulators, engineers and others.



When

Date: 14-July-2016
 Time: 06:00PM to 08:00PM (2.00 hours)
 All times are: US/Michigan
[Add Meeting to Calendar](#)

Where

1514 Daniel Rd
 Jackson, Michigan
 United States 49202
 Building: The Hunt Club

Who

[Email meeting contact...](#)

More

No Admission Charge.

Registration

[Click Here to Register](#)

Speaker

Stephen S. Miller, P.E.

Biography:

Mr. Miller has more than 35 years of experience in the analysis and planning of electric utility transmission systems and the design and development of associated software programs. Mr. Miller and his colleagues provide data and expertise for the development of the LEEM methodology originated at WSU. Outside of this expertise, Mr. Miller has three engineering degrees from the University of Michigan and has performed all manner of study projects involving the grid ranging from cascade failure analysis, generation adequacy, to economics studies, special studies etc. Mr. Miller works successfully at the boundary of engineering and legal, regulatory, and business issues successfully developing and presenting testimony and positions.



Agenda

1. **Socializing and Dinner**
2. **Presentation**

IEEE Technical no cost



Opportunity to join one or more IEEE Technical Communities **at no charge**

Because of the rate at which new technical fields evolve, it is important to create nimble communities focused on fast-growing topic areas. These communities facilitate knowledge-sharing, collaboration, and the development of programs which challenge established technologies through novel research and applications. Some communities are still in the incubation phase, recruiting thought leaders and volunteers for communications, meetings or conferences, and developing plans for programs of interest. Other communities are more established, with information/news portals, community communications, and other ways in which those interested in the technology area can connect and work for change.

Currently, there are sixteen technical communities in which you can participate at no charge. On behalf of IEEE, I would like to invite you to learn more about these communities **NOW** by following the icons/titles below. Each will bring you to the IEEE Membership and Subscriptions Catalog, which will provide more information as well as the ability to join these communities for free.

You can sign up for any of these communities, regardless of your IEEE and Society affiliation.

A Comic Con Visit



Anyone who has spent time at a meeting and 'networked' with other members understands that although our common interest has brought us together, every individual has multiple and diverse interests and many facets to their character. This is one reason why we publish the "Other Happenings" column with 'links' to the websites for many different organizations with strong science, technical, engineering, mathematical and art content. However, many of us might pass by some by without taking a second look. One of these for me was:

Science Fiction Conventions

<http://www.conclavesf.net/>

While many of us maintain an interest in SyFy literature and films, what is there about a 'convention' for science fiction would interest us? To find out, I attended a small part of the:

Great Lakes Comic Con on Saturday Feb. 27, 2016 at Macomb Community College Sports and Expo Center



The cost was \$10 per adult. Children 10 and younger are free. The web site was/is greatlakescomiccon.org.

The accompanying photos will give you some idea of the scope, and diversity of the exhibits, offerings and attendees.

Many attendees find this an opportunity to exercise their artistic talents as make-up artists, costume makers, model construction and role playing. Several have found like-minded friends to be able to assemble a team to role play as groups of 'Star Wars Storm Troopers' and an extended cast from 'Ghost Busters' and characters from Japanese Anime. There was even a 'minion' that has escaped from the 'Despicable Me' movie.

Many had built models of futuristic weapons, robots, vehicles and utility items. A quick look through some of the photos from the event will give you an idea of the diversity and imagination that many have devoted to creating amazingly realistic items.

For those who had come to Comic Con to purchase or sell comic books, graphic novels or fantasy artwork, sculpture, jewelry and clothing, the opportunities were almost beyond counting. (I did not even try.) However a look at a few of the stalls for comic book, clothing and computer game sales made it obvious that this particular art form is not only alive and well but, in great demand. Further, it was also apparent that interest and energetic involvement in the entire proceeding was not restricted to any age, gender or background group. Everyone was focused on enjoying each other's company and engaging others of like minds. I was only able to spend part of one day at Comic Con and came away looking forward to the next event, and hoping to be able to sit in on some of the other events; author interviews, panel discussions, costume contests, media guests, etc..

Keep checking the websites. Look for the next opportunity. Perhaps we will meet at the next event.

Seven Lessons on Physics

Carlo Rovelli is a leading Italian theoretical physicist and current lead of the Quantum Gravity group at the Centre de Physique Theorique of Aix-Marseille University and founder of the loop quantum gravity theory. His short book, "Seven Lessons on Physics" offers a glimpse into the history and thinking of the line of genesis who have led us from the 'dark ages' into the ever expanding world of contemporary physics, mathematics and both theoretical and applied science.

In a text that is only 81 pages, Dr. Rovelli introduces us to the both the theories and the people who stepped aside from what society normally views as 'important' pursuits, to move beyond what everyone else 'knows' to what no-one else has ever imagined.

He introduces us to a young Albert Einstein who was 'wasting time' in Pavia between High School and University studying philosophy and auditing classes that interested him.

Shortly after returning to Germany to enroll in the University at Zurich Einstein produced three Nobel Prize quality articles. There is no doubt that his studies at University prepared him for the rigor and gave him the tools to build those papers but, there is also little doubt that without that "wasted" time of deep introspection, someone very different would have emerged. Would that someone have had the perspective and insight to have written those papers.... Perhaps.

Carl Friedrich Gauss encouraged one of his students, Bernard Riemann to expand Gauss's equations for two-dimensional curved surfaces to three dimensions. Young Riemann's work then allowed Einstein to predict what we now call the 'Space Time Continuum' with properties of an expanding universe, the bending of light around stars and the fact that time is not 'fixed' for different observers under different speed and/or gravitational conditions.

In all of these and other examples Dr. Rovelli shows us the joy and delight that can be found in both the discovery and the re-discovery of the elegance and simplicity of the foundational theories of current physics. That joy compares to the power of great works of art, such as a Beethoven string quartet to move us in ways we had never anticipated or expected.

Dr. Rovelli also makes us aware of the human side of these great thinkers, and how much each owes to both the past minds that opened the way in the beginning, and to the contemporary fellow travelers of their own time who were often in communication and occasionally directly working together to solve similar questions. Many of these were also taken from us early and at least one took his own life in despair. Most were people with wide interests and pursuits and should be remembered as not only scientists but as human beings with lives as full and satisfying as our own.

Finally we are introduced to some of the leading edge concepts, and some of the doubts that accompany the first exploration into territories previously unexplored. Some of the failures, some of the unplanned successes and some of the possible new paths that may lead us to new vistas and knowledge are revealed.

In all, we are introduced to the very human people who have led and are leading us into the next steps in our understanding of the universe and to the joy of discovery and the beauty inherent in theories that explain in clear and simple terms something that has eluded mankind's best thinkers of the past.

More than a brief history of modern physics, this book is about the joy and delight inherent in exploration and discovery. In this case, we are exploring the physical reality of the universe through the eyes of a master of both physics and mathematics.

Dr. Rovelli's work helps give us, who have only watched from the sidelines, a view of the sensibilities of someone deeply involved in appreciating and attempting to describe the universe. And, the view is magnificent!

[Link to YouTube discussion](#)

IEEE EMC Symposium

Please Join Us in BRINGING COMPATIBILITY TO THE CAPITAL!
Ottawa, ON Canada – The Shaw Centre
25th – 29th July 2016

FEATURED TECHNICAL PROGRAMS!

The 2016 IEEE International Symposium on Electromagnetic Compatibility, sponsored by the IEEE EMC Society, featuring an embedded Signal Integrity and Power Integrity conference, is the must-attend event for EMC engineers of all levels and specialties.

The IEEE EMC Symposium provides knowledge and tools that help engineers address electromagnetic environmental effects and electromagnetic compatibility. Stay abreast of current technologies, testing and engineering methods.

Event Highlights

- Keynote Speaker
- Embedded SIPI Conference
- Special Focus on Military EMC
- Aerospace EMC Special Session
- Ask the Experts
- Panel Discussions

Benefits of Attending

- Learn EMC, Signal Integrity and Power Integrity techniques
- Three days of expert technical papers
- Two full days of practical EMC & SIPI workshops and tutorials
- Experiments and demonstrations of fundamental and advanced topics
- Exhibits! New Technologies, Instrumentation and Solutions
- Social networking, connecting and unique Ottawa culture

Leading Edge Info

- EMC Management
- Low Frequency EMC
- Computational Electromagnetics
- High Power Electromagnetics
- Electromagnetic Environments

**“What does that
 FCC sticker
 on your electronic
 devices really mean?”**

Read Kris Hatashita's
 article in the

**OTTAWA
 BUSINESS JOURNAL**



• Theme Topic I – Signal & Power Integrity

- High-speed channel characterization and modelling
- Signal/power integrity co-design and co-simulation
- 3D IC and 3D packaging
- Measurement techniques
- Jitter, equalization, BER

• Theme Topic II – EMC for Emerging Technologies

- Wireless EMC
- Radio-Frequency Interference
- Smart Grid EMC
- Nano-Materials and Silicon Photonics
- Unmanned Aircraft Systems EMC

• Theme Topic III – Space EMC

- Launch vehicles
- On-orbit platforms
- Systems and Networks



Maker Faire – Henry Ford Museum



Maker Faire Detroit

July 30-31, 2016
9:30am - 6pm
The Henry Ford • Dearborn, MI

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 - CALL TO MAKERS
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 - SPONSORSHIP
- SCHEDULE



Tickets on Sale

Posted on [May 5, 2016](#) | Comments Off



Tickets for Maker Faire Detroit 2016 are now on sale. Pick up yours today on our [website](#).






2

TINKER. HACK. INVENT. MAKE.

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- Makers Apply Today!

CONNECT WITH US



 **THF OnMaking.**
 Into all things DIY?
 Sign up for THF OnMaking eNewsletter, the destination for people who love to tinker, hack and make.

Wireless Device Testing



**IEEE Southeastern Michigan Section
Chapter IV (Trident)
Pizza, Salad, and Beverages – 5:30 to 6:00 pm
Talk – 6:00 to 7:00 pm
Thursday, July 21, 2016
Presentation Room, Bosch Building,
15000 Haggerty Way, Plymouth, MI**



"An Introduction to Free-Field Measurements of Wireless Devices in Reverberation Chambers"

Kate Remley

National Institute of Standards and Technology
IEEE EMC Distinguished Lecturer

Abstract:

When the antenna is integrated into the body of a wireless device, as it is for cell phones and many other portable devices, performance testing is typically done under free-field conditions. In this overview presentation, we will discuss free-field characterization of some key wireless-device parameters by use of reverberation chambers. Measurements in reverberation chambers must be averaged over a sufficient number of samples in which the modes of the chamber are randomized or "stirred." We will discuss recent research on the use of these chambers for testing devices that transmit modulated signals.

Speaker's Biography:

Kate A. Remley (S'92-M'99-SM'06-F'13) was born in Ann Arbor, MI. She received the Ph.D. degree in Electrical and Computer Engineering from Oregon State University, Corvallis, in 1999.

From 1983 to 1992, she was a Broadcast Engineer in Eugene, OR, serving as Chief Engineer of an AM/FM broadcast station from 1989-1991. In 1999, she joined the RF Technology Division of the National Institute of Standards and Technology (NIST), Boulder, CO, as an Electronics Engineer. She is currently the leader of the Metrology for Wireless Systems Group at NIST, where her research activities include development of calibrated measurements for microwave and millimeter-wave wireless systems, characterizing the link between nonlinear circuits and system performance, and developing standardized test methods for RF equipment used by the public-safety community.

Dr. Remley was the recipient of the Department of Commerce Bronze and Silver Medals, an ARFTG Best Paper Award, and is a member of the Oregon State University Academy of Distinguished Engineers. She was the Chair of the MTT-11 Technical Committee on Microwave Measurements from 2008 - 2010 and the Editor-in-Chief of IEEE Microwave Magazine from 2009 - 2011, and is the Chair of the MTT Fellow Committee.

Sponsored by the IEEE Southeastern Michigan Section Chapter IV and Chapter VIII

<http://www.ieeetridtent.org>

H-1B Visa Petition:

From: **Russell Harrison** <r.t.harrison@ieee.org>

Date: Sun, Jan 24, 2016 at 2:37 PM

Subject: IEEE-USA Petition Needs Support

To: Russell Harrison <r.t.harrison@ieee.org>

IEEE Leaders:

Many of you have seen the article in Insight about IEEE-USA's new attack on the H-1B visa program.

(<http://insight.ieeeusa.org/insight/content/policy/255071>)

In brief, we believe that the use of H-1B visa to replace American workers represents intentional discrimination against Americans because of their citizenship - which is illegal under the law.

As part of this effort, we have created an online petition asking the U.S. Attorney General to launch an investigation into H-1B outsourcing. We already have 200 signatures on the petition, but we need more.

The petition can be found here: https://www.change.org/p/attorney-general-of-the-united-states-stop-h-1b-discrimination-against-americans?recruiter=460476742&utm_source=share_petition&utm_medium=copylink

Please take a moment to add your name to the petition. In politics, numbers matter. The more names on the petition, the more likely it will generate a response. We believe that the law is on our side, but the U.S. Department of Justice is a busy place. It will take many voices to get their attention.

After you have signed, please send this e-mail to anyone else you think might be willing to help.

Thank you for your help. This should only take you a minute or two to do, but could have a profound impact on the H-1B visa program.

Russ

--

Russell Harrison
Director, Government Relations

IEEE-USA
2001 L St, NW: Suite 700
Washington, DC 20036
(202) 530-8326

EMC Laboratory Statistical Process Control



When

Date: 15-September-2016
 Time: 05:30PM to 07:30PM (2.00 hours)
 All times are: US/Michigan
[Add Meeting to Calendar](#)

Where

19000 Hubbard Building: University of Michigan - Dearborn
 Dearborn, Michigan Room Number: TBA
 United States 48126

Who

[Email meeting contact...](#)

More

No Admission Charge.

Registration

[Click Here to Register](#)

Speaker

Kimball Williams

Topic: **EMC Laboratory Statistical Process Control (SPC)**

Measurement system variability in a test laboratory can be a source of discomfort for the test engineer, the designer and management. This is especially true in small development laboratories where there is a question of exactly what effect a design change had on system behavior. The use of Statistical Process Control (SPC) methods to gage and track the variability of system measurements can provide confidence in the repeatability of the system setup, and in the data it produces.

However, the use of SPC in an EMC Lab, especially for frequency domain measurements, requires decisions to limit the quantity of the data to avoid information overload. To accomplish this careful selection of the measurement methods is essential.

Biography:

Kimball Williams completed his career and retired from DENSO as a "Technical Fellow" in 2012 after 10 years managing its EMC Test Laboratory. He is a certified Master EMC Design Engineer, EMC Test Engineer and ESD Test Engineer with Lifetime certification from INARTE.

He is an IEEE Senior Life Member and Past Chair of the IEEE Southeastern Michigan Section and an 'Honored Member' of the IEEE EMC Society where he serves as one of the Past Presidents Emeritus and current Director of Professional Activities.

Kim is a licensed private pilot, PADDY certified scuba diver, licensed amateur radio operator (Call sign: N8FNC) and plays classical guitar in his 'spare' time.

Email: k.williams@ieee.org

Address: Dearborn, Michigan, United States



Agenda

5:30 Pizza, Salad and Beverages
 6:00 Presentation

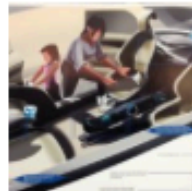
SEM Humanitarian Conference

IEEE SEM HUMANITARIAN TECHNOLOGY CONFERENCE - July 9, 2016

Event Flyer: to be announced

Keynote Speaker: Robert Neff

[Read Me First - Registration Information](#)



Organized by IEEE SEM, the technical professional society with over 2000 members, IEEE SEMHTC focuses on advancing technology for the benefit of humanity. This cross-discipline conference provides the perfect venue for those interested in humanitarian projects to join together. The conference attracts an audience of educators, engineers, scientist, practitioners, philanthropists, corporations, foundations, NGO's and others in applying technology to develop effective solutions for the challenges facing the South Eastern Michigan populations.

Conference Mission:

- Promote science, engineering and technology as a solutions to humanitarian problems
- Foster exchange of information and networking in the humanitarian field
- Focus attention of businesses on emerging market and social entrepreneurship opportunities
- Impact in positive and meaningful ways the lives of residents of South Eastern Michigan

Why Attend?

- Participate in an extensive, vibrant, and innovative technical program
- Learn from world-class knowledgeable practitioners working in the field
- Exchange information, share experiences and network with actively involved attendees
- Gain visibility and recognition for your humanitarian work and projects
- Find new resources, ideas, and potential partners or investors

IEEE SEMHTC will cover a wide range of topics that include, but are not limited to:

- Health, Medical Technology, Telemedicine
- Disaster Warning, Avoidance, and Response
- Water Planning, Availability and Quality
- Sanitation
- Power Infrastructure/Off-grid Power/Renewable and Sustainable Energy
- Connectivity and Communications Technologies (data/voice) for Remote Locations
- Educational Technologies
- Agricultural Technologies
- Applying Science, Engineering and Technology for Environmental Sustainability
- Humanitarian Challenges and Opportunities

Overview

- The IEEE South Eastern Michigan Humanitarian Technology Conference (IEEE SEMHTC) is the platform for presenting, discussing, and developing technological solutions to humanitarian challenges. The technical focus of the Conference is complemented by an integrated understanding of broader contexts—economics, policy, culture, environment—to create and promote sustainable holistic solutions.
- SEMHTC welcomes participation by individuals and organizations from technical and non-technical backgrounds, including engineers, scientists, academics, small-businesses, corporations, philanthropists, foundations, and government and non-government organizations.

The Conference theme of "Technology for the Benefit of Humanity" is presented in five tracks:

- **Energy**—infrastructure and off-grid power, renewable, transportation, lighting, cooking & heating
- **Health**—medical technology, telemedicine, mobile care, primary care
- **Disaster, connectivity, and communication**—disaster warning & avoidance, disaster response, disaster management, networks, remote communication, communication technologies
- **Humanitarian challenges and opportunities**—education, housing, supply chain & distribution, business development
- **Water and agriculture**—clean water, sanitation, irrigation, farming practices & agricultural technologies

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- **Humanitarian challenges and opportunities**—education, housing, supply chain & distribution, business development
- **Water and agriculture**—clean water, sanitation, irrigation, farming practices & agricultural technologies

Bob Neff

Topic: **How will people deal with autonomous vehicles?**

What will our life be like with autonomous vehicles? Will it be the anticipated utopia or will there are new concerns that have to be considered? How will people regard the disrupting technology as it evolves?

The presentation provides a history of Automated Vehicles and Highways going back to 1925. The speaker was Technical Leader for his company's participation in the 1997 National Automated Highway Demonstration where autonomous vehicles were successfully demonstrated to be technologically feasible on an automated highway in San Diego.

Many automated features are being introduced on today's automobiles. Many features are in product development and nearing production. The presentation will discuss adoption of these features and will show how vehicle to vehicle communication will facilitate the future of autonomous vehicles.

Finally, the presentation will offer a future vision of what life may be like with autonomous vehicles.

Robert's multimedia presentation describes:

- Some of the history of Automated Vehicles and Highways
- The National Automated Highway Demonstration in 1997
- Factors influencing automated features that have evolved since the demonstration in 1997
 - o Military involvement
 - o Automotive Manufacturers Involvement
 - o Federal Communications Commission Involvement
 - o US Department of Transportation Involvement
- How vehicle to vehicle communication will facilitate the future of autonomous vehicles
- Offer a future vision of what life could be like with autonomous vehicles.

One or more demonstration vehicles will be available that demonstrate some semi-autonomous features.



Dr. Virinder K. Moudgil of LTU

Topic: **Chief Guest**

Biography:

Dr. Virinder K. Moudgil

President and CEO, Lawrence Technological University

Virinder K. Moudgil, PhD, has served as president and CEO of Lawrence Technological University since July 1, 2012. He is overseeing a period of significant growth of LTU's enrollment, fund raising, community outreach, and campus facility improvements, including construction of a third student dormitory to open in 2015 and the Taubman Complex and Marburger STEM Center to open in 2016, which will also house advanced engineering, life sciences, and architecture programs.

President Moudgil has a special interest in advancing cultural understanding and globalization. In 2013 he founded LTU's Global Village Project promoting student awareness and cooperation. He was a team member for arranging and hosting campus visits at OU for current and former heads of states: Lech Walesa (Poland, 2001), George W. Bush (U.S.) and Aleksander Kwasniewski (Poland) 2002; Vicente Fox Quesada (Mexico, 2004) and Dr. Abdul Kalam (India, 2009). He established academic partnerships between OU and institutions in Israel, India, and China. He was a member of the Oakland County Trade Mission to China; a member of the American Delegation in Adult Endocrinology to the People's Republic of China, 1983; and has been chair or invited speaker at scientific sessions at international conferences/symposia in China, India, France, Yugoslavia, Canada, Czechoslovakia, the Netherlands, Spain, and Israel.

Address: Michigan, United States



ESD Events

IEEE Southeastern Michigan Section maintains a supporting membership as an Affiliate with the Engineering Society of Detroit (ESD), and supports many of its activities.

We try to publish ESD events that we feel our members may want to attend. Below is a listing of some of the ESD events planned for 2016:

The Engineering Society of Detroit's (ESD) Professional Engineer Licensing Review Courses

Since 1941, The Engineering Society of Detroit has successfully prepared thousands of candidates for the State licensing exam in a variety of disciplines ranging from civil and environmental to mechanical and electrical engineering. You'll learn in a small classroom-like setting from instructors who have first-hand knowledge of the course material. Let ESD's 70-plus years of experience help prepare you to pass the exam on your first try.

FE (Part I) Review Course August 16-October 20, 2016

The Fundamentals of Engineering (FE) Part I Review Course provides 84 hours of instruction in engineering fundamentals for candidates planning to take Part I of the Professional Engineers Exam.

The classes are held Tuesdays and Thursdays from 6-9 p.m. and on Saturdays (morning or afternoon depending on discipline) at ESD headquarters in Southfield. The Saturday sessions start on August 16, 2015.

FE (Part II) Review Course Alternate August 27- October 8, 2016

The Principles & Practice of Engineering (PE) Part II Review Courses consists of 28 hours of

instruction, on seven half-day Saturday sessions, focusing on problem solving techniques needed for the Professional Engineers (Part II) exam.

All classes are held on Saturdays at ESD headquarters in Southfield. The civil engineering course meets 8:30 a.m. – 12:30 p.m. Mechanical, environmental and electrical courses are 1 – 5 p.m.

For more information or to register:

Visit www.esd.org or contact Fran Mahoney at 248-353-0735, ext. 116, or fmahoney@esd.org.

[Link to the ESD Fundamentals Classes](#)

Engineering SMARt Michigan Program

ESD's Engineering SMARt Michigan program is a rigorous, hands-on science, math, architecture and technology (SMARt) project in which high school students design energy-efficient homes.

Through a series of learning modules, students will be introduced to the basics of energy, alternative energies, and the energy grid, in an atmosphere of fun activities and team building. They will apply these concepts to create real-life solutions by working in teams to design a house. The culmination of the program is a presentation of their team-designed house at a competition between all participating schools where they will vie for scholarships and other prizes.

What role do mentors play?

Volunteer mentors are a critical element to the success of the program and are needed to help teach and coach in the classroom. There are two groups of mentors - Energy Module and Presentation Module.

What is the time commitment for a mentor?

The 15 week program gets underway in late January and finishes up in late May at the competition. Energy Module mentors are asked to teach a minimum of one class period per week for two weeks. Presentation Module mentors are assigned to a school and asked to teach a minimum of one class period per week for eight weeks. Efforts will be made to schedule multiple Presentation Module mentors at each school in order to ensure at least one mentor is in the classroom each week. Mentors can volunteer for one or more schools.

Interested in mentoring?

For more information on mentoring or to volunteer, contact Jasmine Sisson, PE, at sisson@pbworld.com.

Other Coming Events

We try to publish IEEE events in several places to ensure that everyone who may want to attend has all the available relevant information.

SEM Web Calendar:

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

Select "SEM Calendar" button in the top row of the website.

SEM Web Meetings:

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

Select "SEM Meeting List" button in the left-hand column.

vTools Meetings:

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

Select "Schedule a Meeting" button in the left-hand column of buttons.

Other Happenings

However, since our IEEE members tend to have eclectic interests, we want to give everyone a heads up for some of the non-IEEE events that may be of interest.

Let us know if you have a special interest in a field that encourages technical study and learning, and wish to share opportunities for participation with members of the section.

Send the particulars to lunnmalcolm@me.com

An announcement may be placed in the newsletter.

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Links:

Michigan Institute for Plasma Science and Engineering:

Seminars for the 2015-2016 academic year:
<http://mipse.umich.edu/about/seminars.htm>.

Below are links to local SEM Clubs engaged in technical hobbies as well as links to sites that may be useful for locating clubs in the area.

Amateur Radio Clubs in Southeastern Michigan

(This is a fairly comprehensive listing of all the 'Ham' clubs in SEM.)

<http://www.wa2hom.org/ham-radio-clubs-in-se-michigan/>

Model RC Aircraft

<http://www.skymasters.org/>

Model Rocketry

<http://team1.org/>

Astronomy

<http://www.go-astronomy.com/astro-clubs-state.php?State=MI>

Experimental Aircraft Association

<http://www.eaa.org/en/ea/ea-chapters/find-an-eaa-chapter>

Robots

<http://therobotgarage.com/about-us.aspx>

Science Fiction Conventions

<http://www.conclavesf.net/>

Mad Science

<http://www.madscience.org/>

ESD PE Review Class

www.esd.org

Makers Faire:

<http://www.thehenryford.org/events/makerFaire.aspx>

Executive Committee

The SEM Executive Committee is the primary coordination unit for Southeastern Michigan (SEM) IEEE operations. The basic organization chart below shows the 2016 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 or first Thursday at noon. The specific meeting days, 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 first page of the web site.

If you wish to attend, or just monitor the discussions, please contact David Mindham, the section secretary at: dmindham@ieee.org and request to be placed on the distribution list for a monthly copy of the agenda and minutes.

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

Other Meetings:

About half 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 the local chapter meetings each month.

However, members of the section may have multiple technical interests and would like to have meeting information of

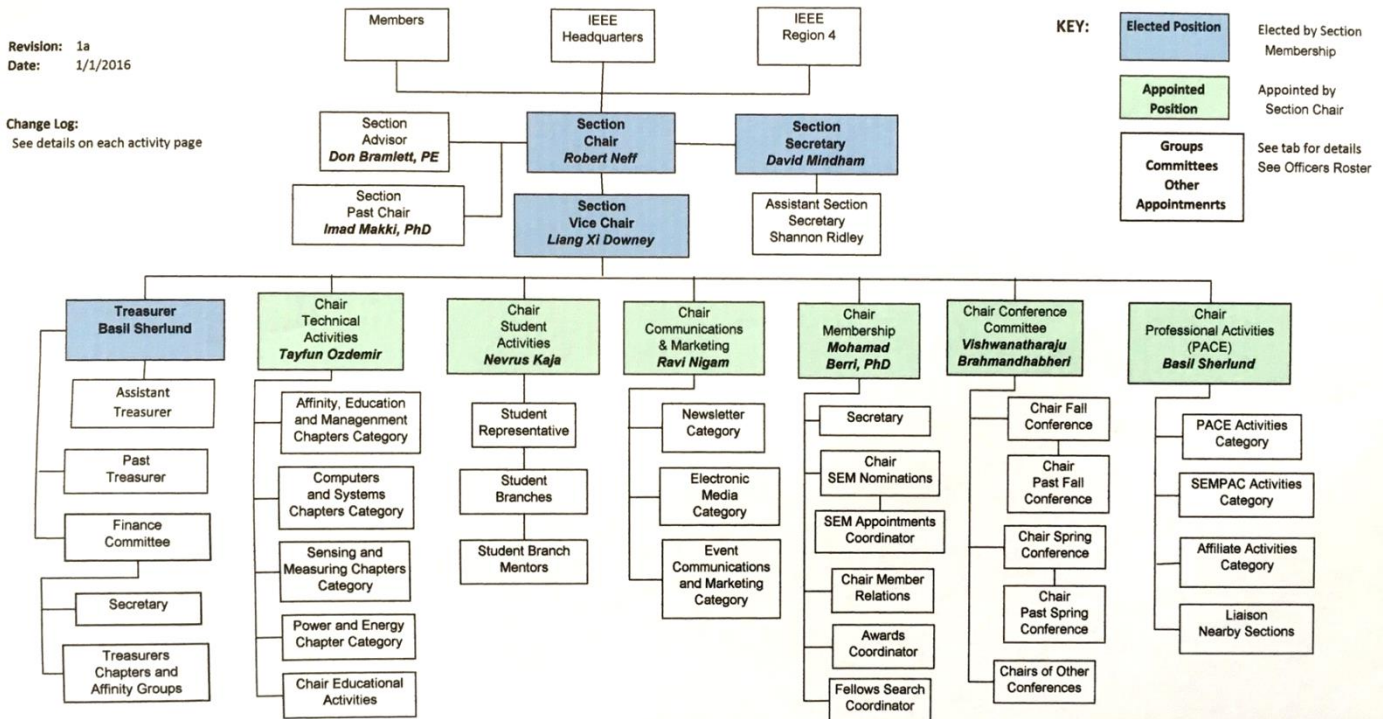
other chapters. In order to communicate the meeting dates of all the chapters, affinity groups etc., to our members to facilitate their attendance, leaders of the groups are requested to send meeting information to our webmasters for posting on section's calendar.

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.

Automatic e-mail notification of web updates may be received using the "Email Notifications" button at the top of the SEM Tools/Links side banner.

David Mindham - SEM Secretary

Current Organization - IEEE Southeastern Michigan Section (SEM)



Download the complete SEM Organization Chart, in PDF format, from the SEM Website at:

www.ieee-sem.com

Then, click on "About SEM" Tab, then, click on "Current Officers"

SEM Mission & Goals**Section Focus:**

The IEEE SEM Section Officers have reaffirmed the Mission and Goals of the section with the guidance of the Region 4 leadership. The Mission and Goals conform with those of IEEE worldwide.

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, and
- 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, and
- 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.

SEM Monthly Meetings**Scheduled Meetings:**

The regular meetings of the SEM Leadership (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 Monthly meetings are normally scheduled:

Monthly Teleconference / WebEx as well as:

Quarterly Face-to-Face (F2F). See schedule 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 on the vTools site at:

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

Registering will ensure there is sufficient space, refreshments and support for attendees.

Teleconference Schedule

(held from 12-1 p.m.):

Wednesday	August	3rd
Thursday	September	1st
Thursday	November	3rd
Wednesday	December	7th

F2F Meeting Schedule:

Thursday	July	7th
Wednesday	October	5th
Wednesday	January(2017)	4th

More information for F2F meetings will be emailed in a timely manner before the meeting dates.

Contact **David Mindham** the SEM Section Secretary at:

dmindham@ieee.org

for more information.

Also consider checking for additional information as the meeting dates approach at the SEM website

(<http://sites.ieee.org/sem/>). The links to the SEM Facebook or LinkedIn pages on the SEM website may also be checked for updates.

All the normally scheduled meetings of each of the other section chapters, affinity groups etc. are listed each month in the vTools area of our SEM website at:

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

The information is for:

Standing Committee Meetings
Affinity Group Meetings
Technical Chapter Meetings
University Student Branch Meetings

Calendar Schedule:

Meetings are also announced on the SEM Calendar web page

<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 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 will be happy to have you as a participant.

Many volunteers become interested in section activities when they get a chance to attend a monthly 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

Editors Corner

Previous editions of Wavelengths, the monthly newsletter of IEEE-SEM, may be found on the IEEE-SEM website at: <http://sites.ieee.org/sem/about-sem/sem-history/wavelengths-magazine-archive/>. Click on the "Wavelengths" button in the top row of selections. Comments and suggestions may be sent to the Technical editor at lunnmalcolm@me.com. The full e-Wavelength's team is shown below in chart. We also recommend a cc to the chair of the Communications and Marketing Committee, Ravi Nigam at: nigam154934mi@comcast.net.

We rely on our officers and members to provide the 'copy' that is presented to our readers. The **Wavelengths Annual Publication Plans for Articles**

and Personal Profiles are shown in the matrix below is presented to ensure coverage of section activities and events.

We try to complete the newsletter layout a week before the first of the month to allow time for review and corrections. If you have an article or notice, please submit it two weeks before the first of the month or earlier 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.

Editors:
We are always looking for members interested in helping to

edit the newsletter. The process is always more fun with more members to share the duties, and help keep the newsletter alive and lively by providing alternative points of view.

Review:
Each month Jim Woodyard reviews the current issue, adding more "formal" English and correcting typos Jim likes to work in the background but, a special thank you is deserved for his continuous efforts and dedication to the quality of the publication. Thank you Jim!

Join the Team:
If you feel you might like to join the team, or would like to train with us, Contact: lunnmalcolm@me.com.

Annual Publication Plan for general Articles

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

Annual Publication Plan for 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	

e-Wavelength Productions	
<i>Editor in Chirf</i>	Nevrus Kaja
<i>Mkting & Publicity Manager</i>	Michael Miller
<i>Technical Editor</i>	Malcolm Lunn
<i>ListServ Operations</i>	Christopher Johnson
<i>Advitivity Updates</i>	Kimball Williams
<i>Publications Review</i>	James Woodyard



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>

Section Officers

Section Chair

Robert Neff

Section Secretary

David Mindham

Section Vice-Chair

Liang Xi Downey

Section Treasurer

Basil Sherlund

Standing Committees:

Section Adviser

Don Bramlett

Chair Communications & Marketing

Ravi Nigam

Chair Conferences

Raju Brahmandhabheri

Chair Educational Activities

Chaomin Luo

Chair Finance

Nevrus Kaja

Chair Membership

Mohamad Berri

Chair Nominations

Kimball Williams

Chair Professional Activities

Basil Sherlund

Chair Student Activities

Nevrus Kaja

Student Representative

Maoxu Liu

Chair Technical Activities

Tayfun Ozdemir

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 Wednesday or 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 Engineering Society of Detroit, Southfield, MI

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>