



# Wavelengths

## SEM Calendar

**Volume 56 – Issue 6 June 2016**

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### Section/Chapter Meetings, Webinars:

- SEM – 6/1 Executive Committee Meeting WebEx [\(more\)](#)
- SEM – 7/7 Executive Committee Face to Face [\(more\)](#)
- CH8 – 6/16 Automotive EMC Consulting in Ann Arbor [\(more\)](#)
- CH8 – 7/21 Wireless Device Test in Reverberation Chambers [\(more\)](#)

### Conferences and Seminars:

- June 27-30 ITEC (Transportation Electrification Conference) in Dearborn [\(more\)](#)
- June 27 5:30-7:30 ITEC free Public and Media night [\(more\)](#)
- 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 [\(more\)](#)

### Career and Member Development:

- IEEE Technical Communities to try at no cost for limited time [\(more\)](#)
- 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

### Elected Officers Meeting:

Your elected officers met again in May as a small group to discuss section strategy and issues. Continuing our discussion from our last meeting, the major topic was member involvement, appointed officer engagement, and establishing strategic priority goals. Your leadership team decided that our primary goal for the rest of 2016 is: **All Chapters and Affinity Groups shall have at least 1 administrative meeting and two technical meetings each year.** Measurement will be by L-31 reports filed by each Chapter and Affinity Group. Your leadership group plans to meet quarterly but are in communication weekly and sometimes daily.

### Training:

We opted for virtual training for our officers and appointed volunteers because it was hard to find opportunities for everyone to come together for a face to face day of training. The training modules are brief (3 to 5 minutes), are modular and are posted on the SEM web site at <http://sites.ieee.org/sem/about-sem/training/>.

All Southeastern Michigan Section Chapter and Affinity Groups elected and appointed officers are requested to attend Virtual Officers Training so you are better able to understand your position and to make you aware of available IEEE's support. The virtual format allows you to proceed through the training modules as you have time.

### Conferences:

Plans are underway for some great upcoming conferences. Volunteers are welcome and needed. Contact information can be found in the Officers Roster on the "About SEM" page at the SEM web site [www.ieee-sem.org](http://www.ieee-sem.org)

- Humanitarian Technology Conference is planned for July 9. See details on page # 6 of this newsletter.
- 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.

### Financial Audit:

Our 2015 financial records were well documented and submitted to IEEE Internal Audit Department last month. We have heard nothing more on this topic.

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](mailto:RLNeff1@gmail.com)

## On-Line Newsletter!

From the SEM calendar on page one you see that the Wavelengths newsletter is changed, from the March issue the transition to e-Wavelengths is starting transition and the format is starting to emulate what will be an online document. We have progress in the discussion with Paul Wesling from San Francisco IEEE Section on this and draft webpage started to be populated, will be active soon.

One of constant struggles being waged in this digital age is the need to keep everyone in large, diverse organizations informed of time sensitive and/or critical events. This shows up in our monthly newsletter when we learn of events of interest to our members only a few days before the event or after the monthly publication date has passed and the current issue already released into your hands.

Following the lead of the successful "[e-grid](#)" on-line publication used by the IEEE San Francisco Bay Area Council, we are currently nearing the final planning stages of converting our monthly 'published' PDF newsletter into a 'Live' on-line version that will present as 'up to the minute' information on local activities as possible.

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 19 for our e-Wavelengths contacts and reply to us to participate. Your contributions are and response to format, suggestions are welcome.

Malcolm Lunn

[lunnmalcolm@me.com](mailto:lunnmalcolm@me.com)

## ESD Gold Awards Banquet

On the evening of March 16, 2016 members of the Affiliate Engineering organizations that comprise the Engineering Society of Detroit assembled to honor the outstanding members of each community at the annual Gold Award Banquet.

The photo at right shows those IEEE representatives present that evening. From left to right: seated: Kimball Williams, Liang Downey, Lora Schulwitz, standing, (Nevrus Kaja and Amisa Bici), seated, Amir Mortazawi, Don Bramlett and David Mindham.



After a fine dinner and enjoyable conversation, awards were presented by each of the engineering affiliate groups that had proposed to honor their members that evening. On behalf of IEEE, our current Vice-Chair, Liang Downey presented awards to Nevrus Kaja and Lora Schulwitz as our IEEE 'Outstanding Members'.

Nevrus Kaja serves in Southeastern Michigan Section as both the Finance Committee Chair, as well as the Chair of Student Activities and the lead editor for the new e-Wavelengths newsletter.

Lora Schulwitz serves as the Chair of our very active Chapter 4, which encompasses the Antennas and Propagation Society, the Electron Devices Society, the Microwave Theory and Techniques Society and the Photonics Society.

We are all very proud of the contributions both Nevrus and Lora bring to our Section, and grateful for their service to our community.



IEEE Technical no cost



Dear Robert Neff,

I would like to make you aware of the 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.


Come with us and be a part of a community that will take you to the next level of technology!

Regards

José M. F. Moura  
Vice President - IEEE Technical Activities



## 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](#)

## SEM Humanitarian Conference



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

**When**

Date: 09-July-2016  
Time: 09:00AM to 01:30PM (4.50 hours)  
All times are: US/Michigan

 [Add Meeting to Calendar](#)

**Where**

15801 Building: Ford Community and Performing Arts Center  
Michigan Ave Room Number: TBD  
Dearborn, Michigan  
United States 48126

**Who**

[Email meeting contact...](#)

Scott Lytle Event Registrar 734-983-6012

Event Chairman: Harpreet Singh, [hsingh@eng.wayne.edu](mailto:hsingh@eng.wayne.edu)

**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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### 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.



#### MARK YOUR CALENDAR

- Buy Tickets Today!
- 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.ieeetrident.org>**

**H-1B Visa Petition:**

From: **Russell Harrison** <[r.t.harrison@ieee.org](mailto: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](mailto: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](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

ITEC Conference

# ITEC2016

COMPONENTS, SYSTEMS, AND POWER ELECTRONICS-  
FROM TECHNOLOGY TO BUSINESS AND PUBLIC POLICY  
JUNE 27 TO 29, 2016



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keyword...

SEARCH



**BMW i8**  
*Plug-in hybrid electric vehicle*

## ITEC 2016 MENU

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## Home

**ITEC 2016 Final Program Now Available! [Click Here To View.](#)**

**ITEC 2016 Exhibitor Directory Now Available! [Click Here To View.](#)**

**The Expo For The Conference Is Sold Out! See The Floor Plan [Here.](#)**

**[Sign Up](#) For Email Updates And More Information!**

### Conference Location:

**Edward Hotel Michigan**

600 Town Center Drive,  
Dearborn, Michigan, USA 48126-2793

## Downloads

[Click here to download CALL FOR PAPERS](#)



## Automotive EMC Consulting

Southeastern Michigan IEEE EMC Chapter technical meeting.

**\*\*\* Note the New Meeting Location: Antonio's Cucina Italiana - Canton \*\*\***

Food and Beverage Sponsors: [Ophir RF](#) and [ConRes](#)

**YOU MUST PRE-REGISTER FOR THIS MEETING - NO WALK INS PLEASE - PLEASE ARRIVE BY 5:30**

**I-275 Construction Closure Information:** <http://www.revive275.com/>



### When

Date: 16-June-2016  
 Time: 05:30PM to 07:30PM (2.00 hours)  
 All times are: US/Michigan  
[Add Meeting to Calendar](#)

### Where

2220 N. Building: Antonio's Cucina Italiana - Canton  
 Canton Center Rd. Room Number: Rita West Room  
 Canton, Michigan  
 United States 48187

### Speaker

**Arnie Nielsen** of Arnie Nielsen Consulting LLC

Topic: **Automotive EMC Consulting - An Improv Approach, How Hard Can It Be?**

#### Abstract

This presentation will address three topics. The first will be inexpensive test equipment and procedures used for solving issues where keeping costs low is essential. This is especially important for solving issues that may take a lot of time to resolve since most EMC labs are fully booked and expensive. The second topic is how specific issues were solved and lessons learned during my consulting. Examples will include Tire Pressure Monitoring Audit System, Electronic Throttle Control, Chevy Volt battery pack electronics, DVD headrest system, Sequential LED taillights, LED fog lights, shielding evaluation for sensitive RF receivers and independent Toyota unintended acceleration investigation (Edmonds contest). The third topic will be some documents to be aware of such as SAE J1211 (Robustness Validation), SAE J1938 (Product Development Process and Checklist), SAE J2628 (Conducted Immunity Characterization) and ISO 26262 (Functional Safety).



#### Biography:

Arnie Nielsen graduated from Wayne State with a BSEE. Arnie has over 45 years' experience in the automotive electronics industry. After serving in the Navy submarine service, he worked as an instrumentation engineer in the crash test facilities at Chrysler then Ford. He then spent 10 years in powertrain hardware/software design at Ford. From 1985 to 2005 he worked in EMC, reliability and product assurance as a technical specialist with Ford-Visteon and is an INARTE certified Master EMC design engineer. After retiring in 2005 he has been consulting with over 35 companies

Email: [arnienielsen@gmail.com](mailto:arnienielsen@gmail.com)

Address: Northville, Michigan, United States

### Agenda

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

Chapter website: <http://www.emcsociety.org>

## 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](http://www.esd.org) or contact Fran Mahoney at 248-353-0735, ext. 116, or [fmahoney@esd.org](mailto: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](mailto: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](mailto: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](http://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](mailto: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

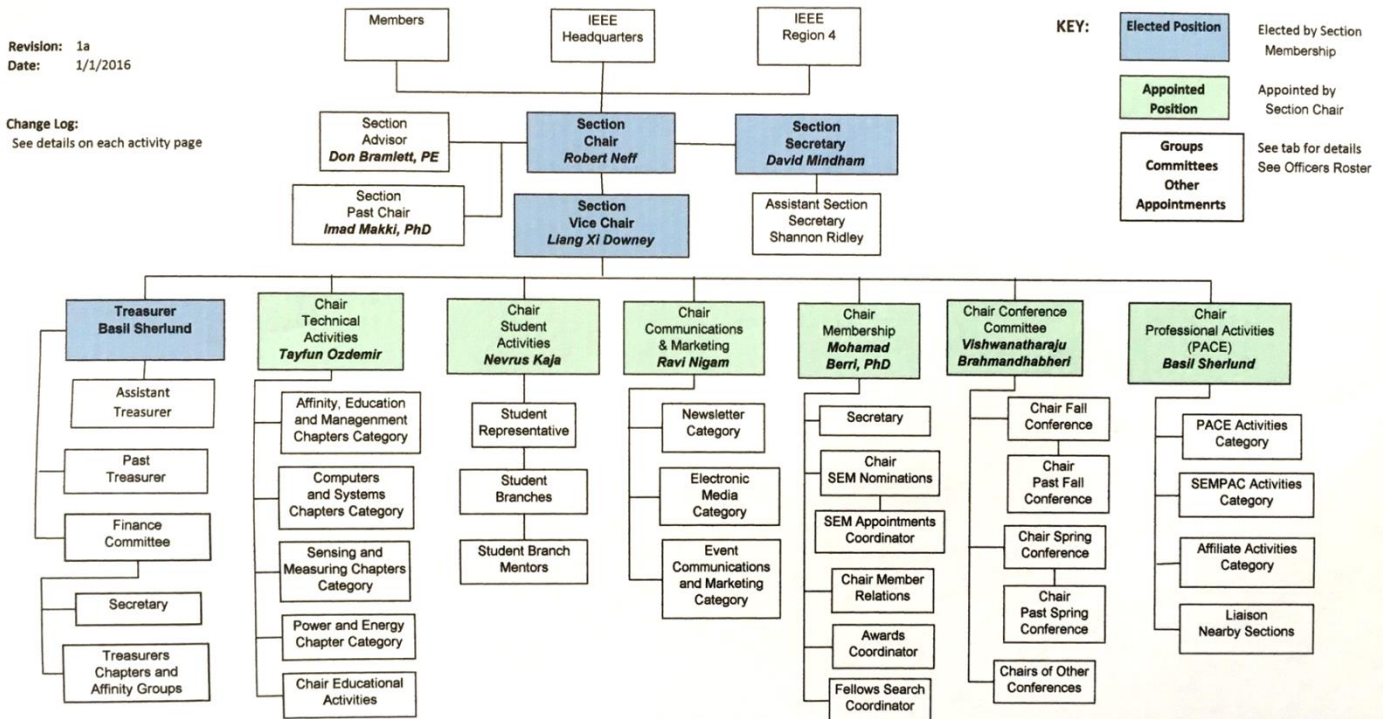
other chapters. In order to communicate the meeting dates of all the chapters, affinity groups etc., to our members to facilitate their attendance, leaders of the groups are requested to send meeting information to our webmasters for posting on section's calendar.

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](http://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.):

<b>Wednesday</b>	<b>June</b>	<b>1st</b>
Wednesday	August	3rd
Thursday	September	1st
Thursday	November	3rd
Wednesday	December	7th

**F2F Meeting Schedule:**

<b>Thursday</b>	<b>July</b>	<b>7th</b>
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](mailto: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](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](mailto: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](mailto: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](mailto: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](mailto: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	
Editor in Chirf	Nevrus Kaja
Mkting & Publicity Manager	Michael Miller
Technical Editor	Malcolm Lunn
ListServ Operations	Christopher Johnson
Advitivity Updates	Kimball Williams
Publications Review	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:

1<sup>st</sup> 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>