IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

Wavelengths

Volume 57 – Issue 3

Contents

Section Chair's Message

Section Chair's Message:

Spring Conference:
The Spring Conference organizing team is building a dynamic program planned for early May based on the theme of Internet of Things, Smart Living. As plans solidify you can learn more about the conference at **www.ieee-sem.**org and click on the "SEM Spring Conference" tab at the upper left of the web page.

Student Leadership Conference:
Our student members and branches are an important aspect of your Southeastern Michigan Section. Region 4, our Section and the Wayne State University IEEE Student Branch, are sponsoring a Student Leadership Conference at the Troy Community Center on March 16-18, 2017. More information can be found at https://events.vtools.ieee.org/m/41739.

Other Events:
Many other events are planned within our Section. In the very near future are events described on the following pages of this newsletter. Also check out our e-wavelengths newsletter and the SEM Calendar at www.ieee-sem.org and click on the "SEM Calendar" tab at the top of the web page.

Volunteering:
In the past, in this column, I have spoken of volunteering at the Section, Chapter, Affinity Group and Student Branch levels. The need for volunteers has not diminished. There are many spots where your talents can be utilized and you will benefit. The benefits of volunteering include, but are not limited to, building your network, growing your social skills, building your leadership skills and mentoring others with your knowledge. To volunteer, please contact leaders in the areas of your interests (www.ieee-sem.org and click on "About SEM" tab) or contact Kimball Williams our Chair of Nominations and Appointments at k.williams@ieee.org . Please volunteer, you will find the experience interesting and rewarding.

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

Phil Hall: Chapter 3 Chair

Philip Hall, 2016-17 Chair of SEM Chapter 3: AESS/ComSoc, has been selected by the IEEE Aerospace and Electronic Systems Society to serve as a Distinguished Lecturer for 2017-2018, with recognized subject expertise in "UAV/UAS/RPAS and Related Technologies" and "UAV Traffic Management (UTM) Systems." (see
http://ieee-aess.org/education/distinguished-lecturer-and-tutorial-program).

He has also been invited to serve on the AESS Professional Networking and Mentoring Program, which is to be launched in January 2017; a flexible international program that is specifically tailored to connect AESS members.

An Australian now living in Ypsilanti, Michigan, Philip is a Senior Member of IEEE and a Fellow of both the Australian Institute of Management and Engineers Australia. He joined IEEE in 2011 and was elevated to a Senior Member in 2013. He is a member of the IEEE Aerospace and Electronic Systems Society (AESS) and the IEEE Society on Social Implications of Technology (SSIT).

For **SEM Section** he serves as:
- Member, SEM Executive Committee
- Chair, IEEE R4 SEM Chapter 3: AES10/COM19 (2016-2017)

- Member, SEM Conference Organizing Committee (2016-2017)
- Judge, Science and Engineering Fair of Metropolitan Detroit (2016-2017)
- Judge, Michigan Regional Future City Competition (2017)

For **AESS** he serves as:
- Vice Chair, Unmanned Airborne Vehicle (UAV) Technical Panel (since March 2015)
- Distinguished Lecturer, AESS (2017-2018)
- Member, Professional Networking and Mentoring Program (2017)
- Member, IEEE-SA Working Group for IEEE P1920.1™ *Aerial Communications and Networking Standards* (2016-2017)

For **SSIT** he serves as:
- Member, SSIT Board of Governors (2013-2017)
  - o Vice President, SSIT Board of Governors and Chair, Strategic Planning Committee (2016)
  - o Chair, Conference and Events Program (2015, 2017)
  - o Chair, Distinguished Lecturer Program (2014-2015)
  - o Chapters Chair / Coordinator (2014)
- Distinguished Lecturer, IEEE SSIT (2013-2017)
- SSIT member, IEEE-USA Committee on Transportation & Aerospace Policy (CTAP) (2014-2017)
- SSIT representative on IEEE Environmental Engineering Initiative (EEI); IEEE New Technical Community on Environmental Engineering (2016-2017)
- Judge, United Arab Emirates (UAE) Government 'Robotics & Artificial Intelligence for Good' Award (2016).
- Judge, UAE Government 'Drones for Good' Award (2015-2016)

- Chair, SSIT Australia Chapter (2013-2014)
- Regular guest editor of the SSIT Technology and Society Magazine.

For **IEEE-USA** he serves as:

- Member, IEEE-USA Government Relations Council (GRC) (2016-2017)
  - o Chair, Committee on Transportation & Aerospace Policy (CTAP) (2016-2017)
  - o Co-Chair, Ad Hoc Committee on Artificial Intelligence Policy (2016-2017)
- GRC representative on the Executive Committee of the IEEE *Global Initiative for Ethical Considerations in the Design of Autonomous Systems*, and it's Committee on *Effective Policymaking for Innovative Communities involving Artificial Intelligence and Autonomous Systems* (2016-2017)
- Member of IEEE-SA Working Group for IEEE P7000™ *Model Process for Addressing Ethical Concerns During System Design* (2016-2017)

Philip specialises in the delivery and management of business-critical systems in complex operational and technological environments. His expertise is founded on over 30 years senior management experience across a diverse range of industries, including Aerospace, Banking/Finance, Construction, Defence, Emergency Management, Environment and Earth Sciences, and Information Technology and Communications.

Chapter 5 Meeting

On February 15th the Computer Society Chapter for IEEE South Eastern Michigan, held its first technical meeting for 2017 at Oakland University. There were 27 attendees of whom 12 were IEEE members.

At the start of the event, Sharan Kalwani (Ch5 V-Chair) encouraged all non-IEEE members to become members, in order to enjoy all the benefits of the IEEE. Details of the next technical event on March 15 were also mentioned.

The Chapter hosted Bill Bone, VP & CTO of CloudSAFE, who gave an insightful presentation on the state-of-the-art developments in the field of sensors and connected vehicle developments based on cloud technologies. His talk was definitely an eye-opener for most of the attendees, as it seems there are several new alliances and collaborations established across many non-traditional players, spanning different countries as well.
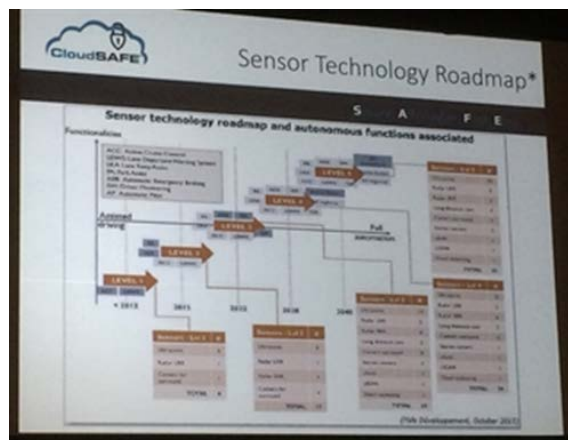
Examples such as Google's forays into this, Amazon's behind the scenes frameworks, the enormous amount of computing (and more to come) needed to just meet the demand, the complexity of dealing with all the software, various classifications of the levels of Autonomous Vehicles, were just the tip of the iceberg.

Bill shared with us, the daunting task of helping to create, refine and extend the sparse standards that currently exist. It was clear to this reporter that our region and many members of the section chapter can easily see themselves in not just taking part, but also contributing to the rising bulk of activity in this arena for the next several decades.

The work in sensors, protocols and methods to communicate, tying all this in to the Internet of Things, Assisted Intelligence (my term), are all already playing key roles in the realization for transportation of the future. For those who missed this event, we hope Bill and his peers may visit us again and give us all an update.
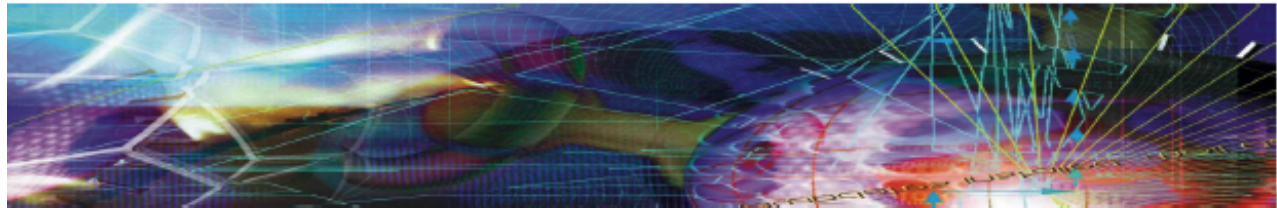
Sharan Kalwani,
Vice-Chair Chapter 5

Chapter 5 – Next Meeting

NVIDIA GPUs

A Transition from Gaming to Autonomous Vehicle & Cancer Research

Ty McKercher, Director of Architecture & Engineering @NVIDIA

IEEE Computer Society SE Michigan Chapter Technical Meeting

Date:
15th March 2017

Time:
6 PM to 7:30 PM EST/EDT

Location:
Room EC 116
Engineering Center,
Oakland University,
Rochester, MI 48309-4479

Space is limited!
To reserve your seat,
please RSVP using vtools:
https://events.vtools.ieee.org/m/43999

Alternatively you may also contact:
sharan.kalwani@ieee.org
Phone: +1 (248) 980-UNIX
OR
ganesan@oakland.edu
Phone: +1 (248) 635-5890

A Joint Presentation of

OAKLAND UNIVERSITY.
School of Engineering and
Computer Science

IEEE computer society
(South Eastern Michigan Chapter)

About this topic:

The history of NVIDIA and Graphical Processing Units (GPUs) is indeed a fascinating story. Once just a mere assistant to hobby then later mainstream game consoles, now GPUs have become a major player in accelerators for an entire spectrum of computing and beyond. In the world of big data, machine learning, artificial intelligence, vision, etc., the power of GPUs is viewed by all as being the prime driver and very central to making the GPU architecture both ubiquitous and very pervasive. The talk will trace this transition from Artificial Intelligence to Machine Learning to Deep Learning and Neural Networks. NVIDIA will introduce to us in great detail all about Deep Learning (DL) and Deep Neural Networks and all the associated fundamentals. A stunning variety of different use cases will be presented, as well as how one can get started in this arena.

Speaker Bio:

Over the last 9 Years, Ty has integrated NVIDIA technologies to help transform customer workflows. Ty enjoys solving challenging customer problems that intersect HPC, Visualization, and Virtualization. Lately, Ty is helping customers' measure value from emerging technology evaluations in the field of Artificial Intelligence using Deep Neural Networks. Ty is leading a team of NVIDIA Solution Architects for DGX-1 server deployments, and has co-authored a CUDA programming book, plus a chapter in an OpenACC compiler directives book.

LTU Lectures

Pushing autonomous vehicles to their dynamic limits during obstacle avoidance

Motivated by the need for maximizing mobility performance of autonomous vehicles in time-critical applications such as military operations or active safety, we will discuss a model predictive control based obstacle avoidance algorithm for autonomous ground vehicles in unstructured environments without a priori knowledge about the obstacles. We will consider a scenario where obstacles are detected using a LIDAR sensor on-board the vehicle and an optimal control problem is formulated to optimize the speed and steering commands within the detection range. In this framework, acceleration capability of the vehicle and stability and handling concerns such as tire lift-off are taken into account as constraints in the optimization problem, whereas the cost function is formulated to navigate the vehicle as quickly as possible towards a given target location with smooth control commands. Thus, a safe and fast navigation is enabled that can exploit the dynamic limits of the vehicle. Simulation results will be given to illustrate the performance of the algorithm and on-going experimental efforts will be highlighted.

Biography:

Tulga Ersal received the B.S.E. degree from the Istanbul Technical University, Istanbul, Turkey, in 2001, and the M.S. and Ph.D. degrees from the University of Michigan, Ann Arbor, MI USA, in 2003 and 2007, respectively, all in mechanical engineering. He is currently an Assistant Research Scientist in the Department of Mechanical Engineering at the University of Michigan, Ann Arbor, MI USA.

Dr. Ersal's research is in the field of system dynamics and control. He is interested in mathematical modeling and advanced identification and control techniques with applications to energy systems (e.g., batteries, fuel cells, vehicle powertrains, microgrids), vehicle systems (e.g., autonomous vehicles, powertrain management, driver distraction), and biomechanics (e.g. human balance).

Where: Lawrence Tech University

When: Saturday March 18, 2017 From 10:30AM to 1:00PM

Who: speaker 1 from University of Michigan talking about "Pushing autonomous vehicles to their dynamic limits during obstacle avoidance"

Who: speaker 2 from Continental Automotive talking about "Autonomous vehicles and their challenges"

Lunch and refreshments will be provided by IEEE

All detail can be found in the link below:

Please Register at: https://meetings.vtools.ieee.org/m/43926

There is NO cover charge to attend. IEEE would benefit if you are kind to register your attendance (using the link above) for a more accurate head count for ordering food.
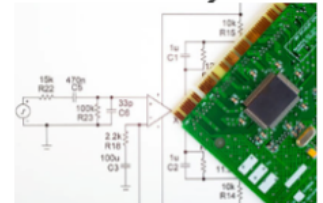
EMC Expert Classes

Elections - 2017

Nomination for Election:

Now is the time that the MGA (Member Geographic Association) of IEEE requires us to let everyone know when we plan to begin the nomination for officers, an hold the elections for 2017. (A 6 month lead time is written into the MGA Policy Manual).

Some of our members have commented in the past about beginning the nomination process "…in May when we don't hold the election until October or November..".

Now that you have been 'notified', let me present the overall schedule as planned by the Nominations & Appointments Committee:
- March: Notification of Timing
- August: Call for ballot names
- September: Ballot build
- October: Elections (Electronic)
- November: Compile Results
- December: Report Results

That last 'Report Results' is to the Section ExCom so that they may 'validate' the results.

Nominations for election to posts at the Section and each Geo-unit (Chapter and Affinity Group) will be open in August. Watch for the e-notice and the article that will appear in the July Wavelengths Newsletter.

If you are interested in exploring your options for participation as an officer in the Section, contact the current officer in that position and discuss the duties and functions of the office with them. They will be the people in the Section with the most up-to-date knowledge of the requirements.

Appointments:

With a large and diverse Section like ours, we experience what is referred to as a 'churn' among our officer ranks.

'Churn' implies that we have an officer body that is in constant evolution and growth. Because the experience of serving as an IEEE officer tends to prepare someone for greater responsibilities, many of our officers find themselves being handed job advancements that take them into more demanding positions.

When that happens, they often need to 'cut back' on their direct involvement in IEEE in order to address the new challenges of their new position. Since IEEE is a totally volunteer organization, we expect to have officers focus on other of their life demands. When that happens we look for replacements.

One of the most productive training grounds for increased job responsibilities is that of an IEEE Secretary. Because it is so successful at training new people for increased responsibilities, it is also one of the most often positions that needs to be filled.

Secretary of a Geo-unit may be just the opportunity you need to improve many of your 'soft' skills.
Please consider the following opportunities:

Secretary Positions Open:
- **Student Branch Mentors Committee**
- **Nominations Committee**
- **Professional Activities**
- **Consultants AG**
- **Chapter 1**
- **Chapter 9**
- **Chapter 11**
- **Chapter 12**
- **Chapter 13**
- **Chapter 15**

These positions above also require membership in the individual Affinity Group or Technical Society that forms the base of the Geo-unit. (Note: this is not true for the Standing Committees, which is why many members gain their early Officer experience in a committee position.)

Training:
It is possible that volunteering for a Secretarial position may be your first experience engaging in an IEEE committee or Geo-unit. While previous experience is always helpful, if you are just starting in a new position it is helpful to quickly review your past training, and go over any available training for the new position.

For an IEEE Secretary (Administrative Assistant) we have posted several training modules on the IEEE SEM Website in the form of PowerPoint and Voice over Power Point (VoPPT) modules. These may all be found on the SEM Website at:
http://sites.ieee.org/sem/about-sem/training/

I recommend at a minimum reviewing:
#32: Secretary Controller of Operations, and
#42: Suggestions for Leading a Committee

If you are interested in exploring your options for participation through one of these positions, please contact me, or the organization Chair.

Kimball Williams
k.williams@ieee.org
313-355-4396

SEM Website

Those of us who have been members of the Section for a long time tend to forget that there was a period when we were 'all at sea' when it came to knowing where to go to find information about IEEE, the Section, its Geo-units (Affinity Groups & Chapters) and Standing Committees.

The 'wellspring' of information about IEEE in Southeastern Michigan Section is the SEM Website:
http://sites.ieee.org/sem/

While the first page (SEM Home) of the SEM Website gives you an interesting glimpse into what is going on in the Section, the real depth of information can be found under the various 'TABs' listed across the top of the first page.
About SEM / SEM Blog / Careers / Chapters / SEM Calendar / Section Conference / Wavelengths.

Under About SEM, as an example, you will find sub topics:
- Current Officers and Committees
- Email Notifications
- Membership
- Officer Duties
- Region 4 Website
- SEM Online Community
- vTools
- Training Material
- SEM Meetings List
- Old IEEE-SEM Website
- Student Activities
- IEEE Member Discounts
- Coming Events & Links
- West Michigan Section
- Windsor ON Section
- Expense Reporting
- RSS Feed
- Section History
- MGA Operations Manual

This page alone can keep you busy for a long time.

Officer Roster:

Under the first of these 'TABs' in the 'About SEM' page the first entry is:
- Current Officers and Committees

There are two more entries in that page;
The SEM Organization Chart, and the **Officer Roster**.
In these two documents you can locate the leadership and their reporting routes for all the elected and appointed officers in the Section.

This can be especially helpful if you are new to the Section and want to know what opportunities exist for participation in your technical specialty. The list of Chapters in the Officer Roster also contains the listing of the supporting IEEE Technical Society or Council, so a brief 'search' can lead you directly to the central operation where members with your common interest meet.

Also listed are the Affinity Groups that span all the technical disciplines and focus more on community, networking and social functions. If you are looking for fun group activities, they can be found in those groups.

Training:

Also on the 'About SEM' page you may notice the "Training Material" entry which can direct you to the listing of training modules, both as PFF files and as Voice over Power Point modules.

Module #39 'SEM Website Intro' will give you a brief 'walk' through the Website itself.

If you are interested in using the opportunity to gain experience in the many 'soft skills' that come along with active involvement in the IEEE as an officer, look at module #46 "Virtual Training Plan" and check out what it has to offer.

e-Wavelengths:

By now you should have noticed that at each page in the SEM Website, you will see a link near the top that connects you to the **e-Wavelengths**. This is our on line, up to the minute, listing of local and regional activities that may be of interest to our members.

e-Wavelengths is where you will go to find out 'what's happening in the Section and beyond. Especially if you are new to the Section, you should look at the e-Wavelengths and sign up for its 'RSS' feed to be informed of new items and changes as they occur.

The 'Wavelengths' document you are reading now is our 'historical' archive of documented Section activities, and notification of long term events. Because of the 'periodic' publication of this 'newsletter', we are unable to keep up with recent changes, and new opportunities. This is where the e-Wavelengths is at its best, to keep us 'up to speed' and aware of new opportunities for gatherings and technical meetings.

If you are not already a 'subscriber' to the e-Wavelengths, this is the time to take that action.

kw

Student Leader Conference:

2017 Student Leadership Conference | Region 4

The SLC is the largest IEEE student event in the Midwest. Students come to the SLC to engage in leadership activities to develop the professionalism that will set them apart from other engineers in the workforce.

Their skills are then put to the test by participating in prize oriented competitions involving topics like programming, circuit design, and robotics. In between these events is a steady line-up of keynote speakers who share their industry experiences and motivate the students to be great future leaders

Event Flyer:
http://sites.ieee.org/sem/files/2016/10/SLC-2017-Sponsorship-Package.pdf

Location:

Troy Community Center
3179 Livernois Rd
Troy, Michigan
United States 48083
Troy Community Center

Start time: **16 March 2017 09:00 AM**

End time: **18 March 2017 11:00 AM**

All times are US/Michigan

Registration Required:
https://events.vtools.ieee.org/m/41739

Admission fees apply ?
Registration Ends
08 March 2017 12:00 AM

Agenda:

Thursday Evening:
4-9 pm: Registration
6:30 pm - 8 pm: Dinner & Evening Keynote
8 pm - 9 pm: Social Hour

Friday:
7:30 – 9 am: Registration
7:30 – 9:30 am: Breakfast
8 – 8:15 am: Welcome Address
8:15 – 9 am: Morning Keynote
9 – 9:15 am: Agenda Breakdown
9:15 – 9:30 am: Break
9:30 – 10:30 am: Leadership Session 1
10:30 – 10:45 am: Break
10:45 – 11:45 am: Leadership Session 2
11:45 am – 12:45 pm: Luncheon with Professionals
12:45 – 1 pm: Break
1 – 5 pm: Brown Bag Competition
1 – 5 pm: Coding Competition
1 – 5 pm: Project Showcase
1 – 5 pm: OPEN Competition
5 – 6 pm: Break
6 – 6:30 pm: Dinner Check-in
6:30 – 8 pm: Dinner
7 – 8 pm: Evening Keynote
8 – 8:30 pm: Awards
8:30 – 9 pm: Farewell Address

Saturday Morning:
8:30 – 9:45 am: Breakfast
9 – 9:45 am: IEEE Region 4 Young Professionals
9:45 – 10:30 am: SLC 2018 Bidding Departure:

Science Fair Judges:

SEM MEMBERS NEEDED AS SCIENCE FAIR JUDGES
By Don C. Bramlett, PE, SMIEEE

Please volunteer to serve on the elite panel of judges for the professional awards being sponsored by the Southeastern Michigan Section of the Institute of Electrical and Electronics Engineer, Inc. (IEEE-SEM) at the 60th Annual Science and Engineering Fair of Metropolitan Detroit (SEFMD).

This is the 22nd straight year that IEEE-SEM has provided judges and sponsored professional awards for projects associated with electrical, electronics, computer engineering and IEEE related fields.

Judging will be on **Wednesday March 15, 2017** at the Science Fair, located at Cobo Hall in downtown Detroit. **The Science Fair will be in the Michigan Hall this year on the Lower Level or Level (0).** Please plan your arrival for **between 7:45 and 8:30 AM** at the Science Fair, to enjoy some free coffee and muffins.

We will be near the Professional Awards Judging Desk (front of hall near the muffins and coffee); bypass the normal judge check-in as you enter the front of Michigan Hall.

As last year, IEEE-SEM plans to provide judging for both the Junior ($5^{th} – 7^{th}$ grade) Division and the Senior (High School) Division.

It is anticipated that the IEEE-SEM awards judging will start at **8:45 AM and be completed by 11:30 AM**. IEEE-SEM will tentatively make two Grand Awards, including framed certificates and cash prizes, and several Outstanding Achievement Awards, consisting of framed certificates.

There has been a major change in the categories of projects. There are no longer simple Engineering, Computer Science, and Physics categories. This year some projects in the IEEE related fields may be found in the categories of Systems Software, Robotics & Intelligent Machines, Physics & Astronomy, Environmental Engineering, Engineering Mechanics, Energy: Physical, Energy: Chemical, Embedded Systems, etc. There are also a larger than normal number of team projects.

Beside schools in Wayne, Oakland and Macomb counties, schools in the Ann Arbor and surrounding counties will participate in the Science Fair. So this year will be a real interesting experience judging the Junior Division and Senior Division projects.

The planned routine will be to separate into small groups at first and quickly roam assigned sections of the project displays to identify those projects related to electrical, electronics and computer engineering that are worthy of further review by the panel of IEEE-SEM judges.

It is anticipated that the number of relevant projects will be rather small. We will then form one team of judges to evaluate at a greater depth the selected projects. Based on the number and quality of the selected project displays, the judges may choose to use the supplied Project Evaluation and Judging Forms to grade the projects in each Division or to use a less formalized process, as deemed appropriate.

Please direct any questions you may have to me at home (734) 591-1452, or on my cell phone at 313-608-6223; or you may contact me at my e-mail address d.bramlett@ieee.org .

Look forward to seeing you **Wednesday, March 15 at the Science Fair at Cobo Hall**.
Parking is available at the Cobo Hall Roof Parking site. Free coffee and muffins are available in the morning.

db

EMC in Milwaukee:

2017 Seminar Fee

IEEE Members	$ 125.00
Non IEEE Members	$ 175.00
IEEE Life Members	$ 50.00
IEEE Student Members	$ 20.00

Registration includes Tutorial Record

Attendance Limited to 160 … *Register Early*

This Seminar qualifies for 8 PDH – Personal Development Hours as defined by the State of Wisconsin - Department of Safety and Professional Services

Registration Instructions

Due to the rising cost of Hotel Conference Facilities, and IEEE Conference Rules, No Group Discounts may be offered.

To Register - go to:

www.emcmilwaukee.com

Crowne Plaza Milwaukee Airport

6401 South 13th Street
Milwaukee, Wisconsin 53221
414-764-5300

The Crowne Plaza Milwaukee Airport Hotel is offering reduced room rates for reservations prior to Friday March 10th, 2017.
Room Rates are $95.00 (single or double occupancy) Mention "**IEEE Seminar**" when making room reservations.

2017 EMC Seminar Committee

Chairperson – 2017 EMC Seminar
EMC Chapter Chairperson
Jim Blaha
IEEE EMC Chapter Chair
262-232-3328
james.blaha@ul.com

Co-Chairperson / Technical Advisor
Tom Smith
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Tom.Smith@lairdtech.com

Registration / Exhibitors
Jessica Blaha
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toni.m.ruel@jci.com

The EMC Chapter of the IEEE Milwaukee Section presents the 2017 EMC Seminar

Global Market Access

An In-Depth Study of GMA's impact on EMC Testing

with

Elya Joffe
President of Elya Joffe - Electromagnetic Solutions, Ltd. and EMC Engineering Specialist and Consultant

and

Mark Maynard
American Certification Body (ACB)
President - IEEE Product Safety Engineering Society (PSES)

March 14, 2017

CROWNE PLAZA
MILWAUKEE AIRPORT

EMC in Milwaukee: (Cont.)

About Today's Seminar –
Who Should Attend?

Design Engineers, Program Managers and Regulatory Managers. This seminar addresses EMC Design Techniques along with Global Safety Regulations and Markings. Today's Seminar will address how our Global Environment requires all three functions to be addressed simultaneously to meet Targeted Dates and Targeted Costs. The attendee will also have access to over 40 Providers of EMC Testing Products and Services.

Elya Joffe

Elya B. Joffe is the President and Principal EMC Specialist of "Elya Joffe - Electromagnetic Solutions, Ltd". With a total of over 30 years of professional experience, his work focuses on consulting and training in EMC and Electromagnetic Effects Engineering. Elya is a Registered Professional Engineer, an iNARTE-Certified EMC Engineer, EMC Master Design and ESD Control Engineer. He has authored/co-authored over 30 papers and is Author of the book "Grounds for Grounding". Elya can be reached at: ebj@StopEMI.com

Mark Maynard

Mark Maynard is the Business Development and Communication Manager at American Certification Body, Inc., and has over 25 years of experience in compliance engineering, in the areas of EMC/EMI, wireless/telecom, product safety, environmental, and quality management systems. He also currently serves as the President-Elect for the IEEE Product Safety Engineering Society, and is the Exhibitions Chair for the 2017 IEEE EMC Symposium. Mark can be reached at markm@acbcert.com .

Welcome ... from Jim Blaha, EMC Chapter Chairperson

2017 is our 16th year in offering an IEEE EMC Seminar. This year's program is focused on "Global Market Access" and the Hidden Challenges within the phases of Product Development. This Seminar brings together two Global Experts that understand this Challenge. Elya Joffe is past President of both the IEEE EMC Society and the IEEE Product Safety Engineering Society. He has Lectured and Consulted Globally addressing both applications.

Mark Maynard is current President of the IEEE Product Safety Engineering Society and has extensive experience with Global Certifications, including Wireless Certifications. Join us, seating is limited. Our Goal of providing an EMC Seminar that is Local, Affordable and Providing the Highest Level of Educational Value is again accomplished with Elya Joffe and Mark Maynard.

An In-Depth Study of GMA's impact on EMC Testing

7:30 – 8:20am
Registration and Continental Breakfast

8:20 – 8:30am
Welcome and Introductions

8:30 – 10:00am
1st Technical Session
Mr. Mark Maynard
What is Global Market Access?
Where does EMC fit in with Product Safety?
Product Markings, DOC's, Directives …
IoT – What is IoT? How is it Regulated? and Who is Responsible?

10:00 – 10:30am
Morning Refreshment Break
Exhibitors Display and Demonstrations

10:30 – 12:00pm
2nd Technical Session
Mr. Elya Joffe
The Challenges in Ultra-High Speed PCB Design for EMC and Signal Integrity
High-speed channel characterization / modeling
3D IC and 3D packaging
Measurement Techniques

12:00 – 1:00pm
Lunch with the Exhibitors and IEEE Acknowledgments

1:00 – 2:30pm
3rd Technical Session
Mr. Elya Joffe
How to Fail EMC in 10 Easy Lessons
Take Home Review Sheet to keep Posted in your office.

2:30 – 3:00pm
Afternoon Refreshment Break
Exhibitors Display and Demonstrations

3:00 – 3:15pm
IEEE Recognition Awards

3:15 – 4:45pm
4th Technical Session
Mr. Mark Maynard
Wireless Global Market Access
Wireless Access – Government Controlled
FCC Certification vs. the World
How to Design for Wireless GMA

4:45 – 4:50pm
Mr. Jim Blaha
Closing Comments and Seminar Survey

4:50 – 5:45pm
Post Seminar Social with Exhibitors

ESD Gold Awards:

GOLD AWARD
RECEPTION & RECOGNITION
2017

This Year's Event will Include:

2017 Gold Award
Affiliate Society Awards

SAVE THE DATE

Wednesday, March 29, 2017 · 6:00 P.M.

2017 Gold Award Recipient
Pranab Saha, PhD, PE, INCE Bd Cert, FESD
Nominated by SAE Detroit Section

Henry Ford College · 5101 Evergreen Road, Dearborn, MI 48128

ESD
THE ENGINEERING SOCIETY OF DETROIT®
FOUNDED IN 1895

GOLD AWARD
RECEPTION & RECOGNITION
2017

Join the ESD Affiliated Technical Societies as we come together to honor and recognize our leaders – engineers, scientists and technical professionals who have distinguished themselves through outstanding achievement and service within their respective Societies.

Hosted by The Engineering Society of Detroit and its Affiliate Council, the event will feature this year's Gold Award winner. This award is given to an individual who is collectively upheld by the council for his or her outstanding contributions to the fields of science and engineering.

PROGRAM

Wednesday, March 29, 2017

Henry Ford College
Andrew A. Mazzara Conference Center

5101 Evergreen Road, Dearborn, Michigan 48128
(Complimentary parking adjacent to building)

6:00 PM
Reception

7:30 PM
Awards Program

COST

$45 per person if registered by March 1, 2017;

$55 thereafter.

Please register by March 15, 2017;
late registrations will be accepted if space is available.

Cost includes:
A variety of hors d'oeuvre stations,
beer and wine.

ESD
THE ENGINEERING SOCIETY OF DETROIT
FOUNDED IN 1895

Register online at www.esd.org or by phone at 248.353.0735

EMC in Detroit:

ADVANCE PROGRAM

The Southeastern Michigan EMC Chapter Proudly Presents:
EMC*Fest* '2017

"EMC Troubleshooting Kit:"

A Tutorial and Exhibition
With Honored Guest Speaker

Ken Wyatt

Thursday, May 11, 2017

At
Embassy Suites
19525 Victor Parkway, Livonia, MI 48152
734-462-6000

IEEE Electromagnetic Compatibility (EMC) Society.
EMCFest'2017 Home Page:
http://www.emcfest.org
Register On-Line!

Program Outline
Thursday May 11, 2017

Time	Event
6:00	Vendor Table Setup (till 8:30)
8:30	REGISTRATION & EXHIBITS
	CONTINENTAL BREAKFAST
9:00	EMC Essentials
10:00	Break & Exhibits
11:00	Common EMC Issues
12:00	LUNCH
1:00	Developing an EMC Troubleshooting Kit
2:00	Break & Exhibits
3:00	Pre-Compliance Testing & Case Studies
4:00	Ice Cream Reception
5:00	Close of EMCFest

NOTE: breaks will be scheduled at the speaker's discretion. Table-top displays (exhibits) will be open during registration, lunch, all breaks, and the reception. Access to the table-top displays is available during the technical sessions, but the displays may not be manned during those times.

The Program:

EMC Troubleshooting Kit:
This program is focused on developing a Personal EMC Troubleshooting Kit and using it to perform Key Pre-Compliance Tests that will meet today's challenges of tight engineering budgets. A review of EMC Basics and Product Design Fundamentals will keep the "Focus of EMC" at the forefront of your designs. Mr. Kenneth Wyatt has developed an outstanding approach that can be implemented for less than $5,000.00, including a spectrum analyzer! Those attending will greatly benefit from Ken's tutorials and classroom experimentation of these recommended tools. His experience as lead EMC engineer for HP and Agilent Technologies and his independent consulting for a period of over 30 years, will provide interesting insights to his practical approach in solving EMC issues.

EMC in Detroit–(Cont.)

Speaker:

Kenneth Wyatt is president and principle consultant of Wyatt Technical Services LLC, as well as the senior technical editor for Interference Technology. He has worked in the field of EMC engineering for over 30 years. His specialty is EMI troubleshooting and pre-compliance testing and is a co-author of the popular EMC Pocket Guide and RFI Radio Frequency Interference Pocket Guide. He also coauthored the book with Patrick André, EMI Troubleshooting Cookbook for Product Designers, with forward by Henry Ott. He is widely published and authored The EMC Blog hosted by EDN.com for nearly three years. Kenneth is a senior member of the IEEE and a long time member of the EMC Society. He may be contacted at ken@emc-seminars.com .
 or
kwyatt@interferencetechnology.com.
.
Check his web site for more information: http://www.emc-seminars.com.

www.emcfest.org

Committee & Program Chair
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Treasurer: Matt Feusse
734-983-6004
matt@emcsociety.org

FEE SCHEDULE

IEEE Members, Registered before April 24	**$50**
Non IEEE Members, Registered before 24	**$75**
Full –time Students with copy of valid Student I.D.	**$25**
Unemployed / Retired IEEE Member	**$25**
CEU Certificate Only	**$25**
All Registrations after April 15th	**$100**

REGISTER ON LINE!

The registration fee includes one copy of the tutorial record, continental breakfast, lunch, and reception. The organizing committee reserves the right to substitute speakers, restrict size, or to cancel the tutorial. In the event EMC Fest 2017 is canceled by the organizing committee, registration fees only will be fully refunded. Individuals canceling their registration prior to April 15 will receive a full refund.

No refunds will be made to individuals who cancel their registration after April 15.
Attendance is limited. Registration will be confirmed on a first come, first served basis.

Hotel Information

The Embassy Suites Hotel is located 18 miles from Detroit Metropolitan Airport. From I-275 take the 7 Mile Road – East. Travel approximately 1/4 of a mile to Victory Parkway. Turn left on proceed approximately 1/4 mile. Embassy Suites will be on the left . Contact (734) 462-6000 to make arrangements. Airport shuttle is not available so plan a taxi or car to travel to the hotel..

There is no airport shuttle available. Please plan for rental car or taxi transportation.

Embassy Suites in Livonia is offering reduced room rates for reservations. Special Room rates are available (standard room) $121, plus tax. Internet, pool, exercise facility, breakfast and a cocktail reception are free.. There are a LIMITED number of hotel rooms at the reduced price. You must mention "Group ID:385806" to get this special rate and reserve your room by April 13. After which rooms and rates are subject to availability.

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 e-Wavelengths:
www.e-wavelengths.org
This is our 'Active' event listing site where everyone should look first to see what events are scheduled for our Section in the near future.

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 IEEE Local Meetings:
http://www.e-wavelengths.org/

Other Happenings

However, since 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
k.williams@ieee.org

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
https://www.eaa.org/en/eaa/eaa-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 2015 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.

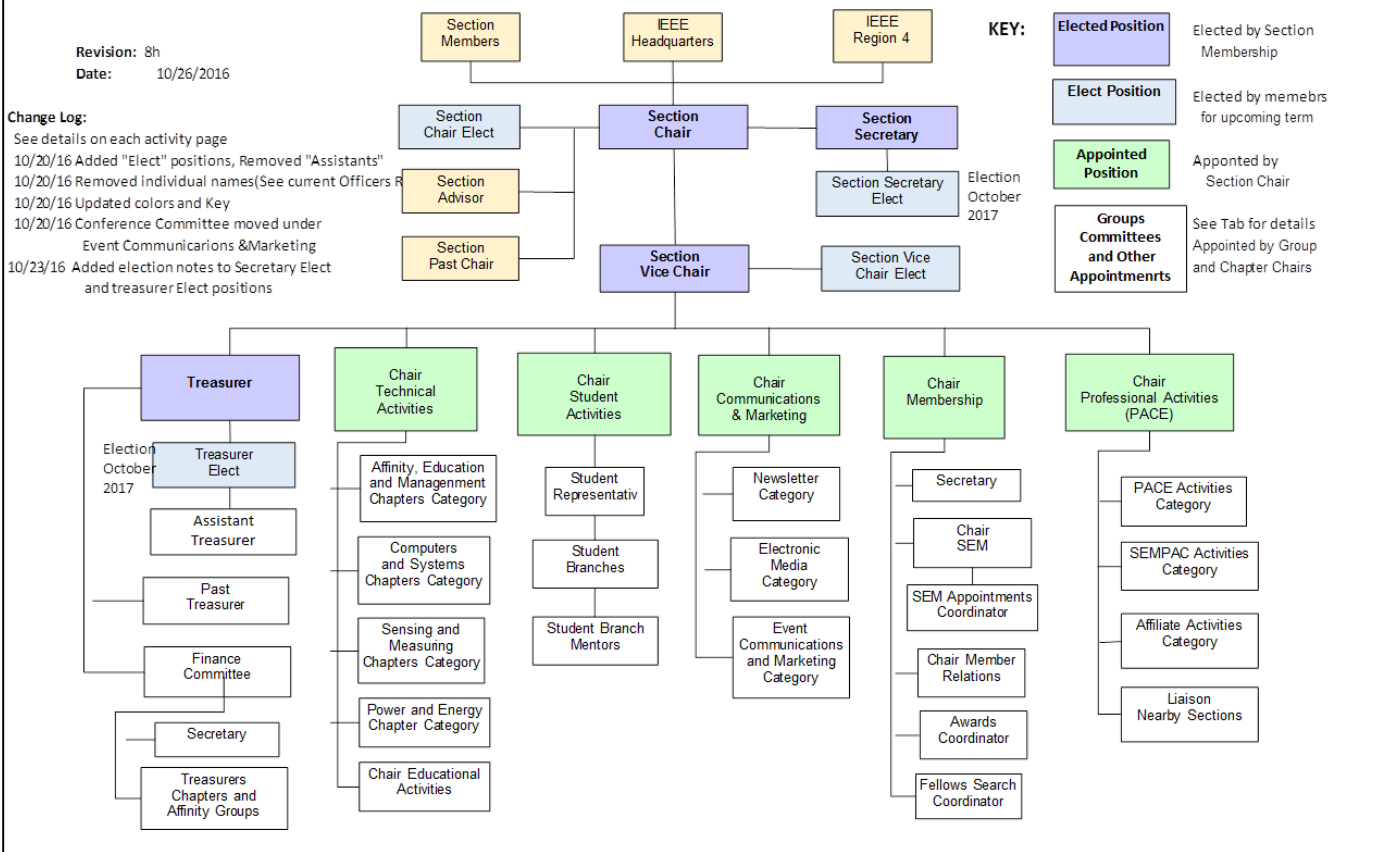However, members of the section may have multiple technical interests and would like to have meeting information of other chapters. In order to communicate the meeting dates of all the chapters, affinity groups etc., to our members to facilitate their attendance, leaders of the groups are requested to 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/ a**nd 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, followed by, click on "Current Officers"

ExCom Meeting Schedule:

Below is the 2017 schedule for the Section ExCom meetings with links to add the events to your calendar.
It is important that at least one person from each Chapter/Affinity Group attends the meetings.
Information on each Face to Face Meeting will be sent out once the venue is confirmed.

Please mark your calendars for the meeting.

March 1, Wednesday, Teleconference, 12:00 – 1:00 P.M. https://meetings.vtools.ieee.org/feed/meeting_ical/42549

April 6, Thursday, Face to Face, 5:30 – 8:00 P.M. https://meetings.vtools.ieee.org/feed/meeting_ical/42551

May 3, Wednesday, Teleconference, 12:00 – 1:00 P.M. https://meetings.vtools.ieee.org/feed/meeting_ical/42552

June 1, Thursday, Teleconference, 12:00 – 1:00 P.M. https://meetings.vtools.ieee.org/feed/meeting_ical/42553

July 12, Wednesday, Face to Face, 5:30 – 8:00 P.M. https://meetings.vtools.ieee.org/feed/meeting_ical/42558

August 3, Thursday, Teleconference, 12:00 – 1:00 P.M. https://meetings.vtools.ieee.org/feed/meeting_ical/42554

September 6, Wednesday, Teleconference, 12:00 – 1:00.M. https://meetings.vtools.ieee.org/feed/meeting_ical/42555

October 5, Thursday, Face to Face, 5:30 – 8:00 P.M. https://meetings.vtools.ieee.org/feed/meeting_ical/42559

November 1, Wednesday, Teleconference, 12:00 – 1:00 P.M. https://meetings.vtools.ieee.org/feed/meeting_ical/42556

December 7, Thursday, Teleconference, 12:00 – 1:00 P.M. https://meetings.vtools.ieee.org/feed/meeting_ical/42557

David Mindham
SEM Secretary

Note: All IEEE SEM Members are welcome at any IEEE meeting, at any time but, please register so we can be sure to accommodate you.

David Mindham
SEM Secretary

Section 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 on the page above:

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.):

F2F Meeting Schedule:

More information for F2F meetings will be emailed to all officers, (and any members requesting the schedule), in a timely manner before the meeting dates.

Contact **David Mindham** the SEM Section Secretary.at:
dmindham@ieee.org
for more information.

Additional information may be found at (**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
   University HKN Chapter 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 in this series may be found on the IEEE SEM website at: http://sites.ieee.org/sem/. Click on the "Wavelengths" button in the top row of selections.

Comments and suggestions may be sent to the editor at k.williams@ieee.org. We also recommend a cc to the chair of the Communications and Marketing Committee, Ravi Nigam at: rnigam154934mi@comcast.net.

We rely on our officers and members to provide the 'copy' that we finally present to readers of the newsletter. The **Wavelengths Focus Plan and Personal Profiles** plan 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 takes time to review the current issue and try to keep us from too many errors of both English and content. 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, k.williams@ieee.org

Wavelengths Annual Publication Plan for 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	

Wavelengths 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	

IEEE Southeastern Michigan

Electrical and Electronic Engineers Creating Our Future

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 Educational Activities
Chaomin Luo

Chair Finance
Nevrus Kaja

Chair Membership
Aisha Yousuf

Chair Nominations & Appointments
Kimball Williams

Chair Professional Activities
Basil Sherlund

Chair Student Activities
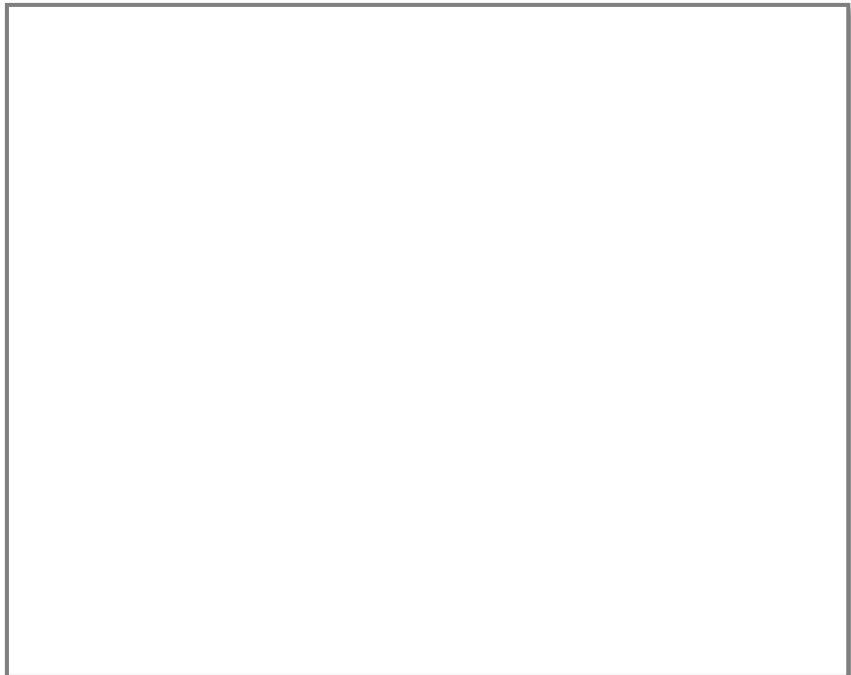Nevrus Kaja

Student Representative
Maoxu Liu

Chair Technical Activities
Tayfun Ozdemir

Past Section Chair
Kimball Williams

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:

SEM Executive Committee Monthly Teleconferences:
- 1st Wednesday or Thursday of Each Month @ Noon
- Check the Section Web Calendar at:
  http://sites.ieee.org/sem/sem-calendar/
  (Select the "SEM Calendar" button in the top row.)

SEM Executive Committee Face-to-Face Meetings:
- 1/Qtr. Find the location, and 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