



Volume 54 – Issue 11
November 2014

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Wavelengths Newsletter is produced by IEEE volunteers and published by IEEE Southeastern Michigan (SEM) Section (<http://sites.ieee.org/sem>) for the Section members.

*Newsletter website Archive:
<http://sites.ieee.org/sem/about-sem/sem-history/wavelengths-magazine-archive/>
Email: wavelengths@ieee-sem.org*

Wavelengths

Section Chair's Message

November Message:

Elections are here. This is your opportunity to select our leadership for the upcoming year. You will receive e-mail notification to vote for the section officers and the leadership of technical societies and affinity groups of which you are a member.

Write in candidates are permissible. Please realize such candidates must be members in good standing and, in the case of chapters, members of that IEEE technical society.

Winning write in candidates, once confirmed to be in good standing, will be contacted by our Nominations and Appointments committee to verify their willingness to serve. Please also realize that our organization depends on members willing to volunteer. Contact the nominations committee and discuss your interests. Please see page #10 for details.

Fall conference is November 13.

Another outstanding lineup of speakers, great networking and dinner are scheduled. You might learn something, meet new people and have fun at it. At least that's the plan. Please see details on pages #6-9.



If we have not met, please introduce yourself. I look forward to seeing you there.

Every month or so, we feature a SEM Chapter or Affinity Group leadership and activities in this newsletter. We request the assistance of your chapter and affinity group officers in this endeavor and their assistance is greatly appreciated. These features attract new members to your group along with advertising your activities.

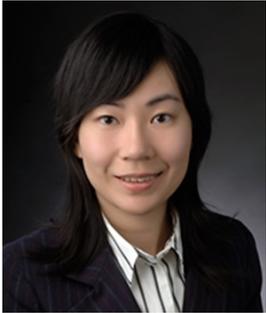
As always, your ideas and suggestions are encouraged and welcome.

Robert Neff
IEEE SEM Section Chair

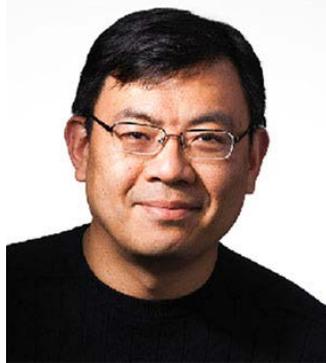
RLNeff1@gmail.com

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Focus on Chapter 17

Secretary:

Dr. Wen Li received the B.S. degree in material science and engineering from Tsinghua University, Beijing, and the M.S. and Ph.D. degrees both in electrical engineering from California Institute of Technology, Pasadena, in 2004 and 2008, respectively. She is currently an Assistant Professor in the Department of Electrical and Computer Engineering at Michigan State University, East Lansing. Dr. Li is the recipient of the NSF CAREER Award (2011), the Best Application Paper Award at 3M-NANO (2011), and the Best Paper Award at International Neurotechnology Consortium (2013). She is a member of the Institute of Electrical and Electronics Engineers (IEEE), American Neurological Association (ANA), and American Chemical Society (ACS). Her research interests include bioMEMS, neuroprosthetic devices, micro/nano sensors, nanoelectronics, polymer microfabrication, process development, and microsystem integration and packaging technologies.

Vice chair:

Dr. Mark Ming-Cheng Cheng is Associate Professor in the Department of Electrical and Computer Engineering at Wayne State University (WSU). Dr. Cheng received his bachelor and PhD degrees in Electrical Engineering from National Tsing-Hua University, Hsinchu, Taiwan in 1995 and 2003, respectively. From 2003 to 2006, he was an NIH postdoctoral fellow at the Comprehensive Cancer Center, the Ohio State University (OSU). Prior to joining WSU in 2008, he was Research Assistant Professor in the Department of Nanomedicine and Biomedical Engineering at the University of Texas Health Science Center at Houston, TX. Dr. Cheng's research interests include biomedical devices, graphene, MEMS and energy storage technologies. Dr. Cheng received National Science Foundation (NSF) CAREER award in 2011 and 2013 ONR Faculty Summer Fellowship. He served as symposium chair of 2011 Annual Spring Symposium of American Vacuum Society (AVS) -Michigan Chapter on the theme of graphene nanomaterial and neural interfaces. He is a member of IEEE, AVS and Sigma Xi.

Treasurer:

Amar Basu received a BSE and MSE in electrical engineering in 2001 and 2003, an MS in biomedical engineering in 2005, and a Ph.D. in electrical engineering in 2008, all with honors from the University of Michigan Ann Arbor. His dissertation, under Prof. Yogesh Gianchandani, was in the area of microscale fluidic actuation and programmable actuation of microdroplets. Amar worked with Intel's Advanced Technology group, General Motors, Silicon Graphics, and served as an adjunct faculty at the University of Michigan. He is currently associate professor at the electrical engineering and biomedical engineering departments at Wayne State University. His research, supported by the NSF, focuses in developing microfluidic and microelectronic technologies for high throughput screening in research and clinical settings. Amar received the IEEE Professor of the Year in 2009 and the Whitaker Foundation Fellowship in 2003. His work as a consultant with Mobius Microsystems and Picocal has resulted in several US patents.

Chapter 17 – Continued:

Chair:



Dr. Randy Boone received a B.S. degree in electrical and computer engineering from the University of Iowa (1988), a MS electrical engineering from Wayne State University (1992), a MS engineering management from University of Detroit-Mercy (1996) and completed a PhD in 2011. Randy has been employed with Ford Motor Company for the past 25 years holding numerous product development assignments. His current assignment is working in the Electrified Powertrain Engineering (EPE) organization developing both Hybrid and Electric Vehicle application for future products. Randy is also an adjunct professor with the Electrical and Computer Engineering Department at the University of Michigan – Dearborn and has taught a number of courses including: Automotive Sensors and Actuators, Engineering Mathematics, and Active Automotive Safety Systems.

Technical Meetings:

For 2014, the nanotechnology section (Ch. 17) has hosted seven technical meetings separate from the spring and fall conferences since last October. The intent of these technical meetings were two-fold; one to give members a broad diversity of technology and a chance to network.

Oct. 3, 2013 – “Characteristics and Capabilities of Electric Vehicles” presented by Dr. Linos Jacovides, President of Paphos Consulting, Adjunct Professor of Electrical and Computer Engineering at Michigan

State University, Fellow of IEEE and SAE

Abstract: Electric propulsion in light duty vehicle is seeing a renaissance driven by the desire to reduce petroleum imports and emission of greenhouse gases. It has been made possible by battery developments initially NiMH and later by lithium ion chemistries. It comes in several flavors that are discussed in the presentation ranging from simple start stop start to full battery electric vehicles.

Jan. 24, 2014 – “Evolutionary Multi-Objective Optimization for Engineering Problem Solving” presented by Kalyanmoy Deb, Professor at Michigan State University, IEEE Fellow

Jan. 31, 2014 – “Sensorless Control for Wound Synchronous Motor and PMSM Sensorless Control for High Speed Turbo Blower” presented by Kwang Hee Nam Professor at POSTECH Korea.

Abstract: Wound field synchronous motor is often called “Electrically Energized Synchronous Motor (EESM or ESM). A probing signal is injected to a field winding and rotor angle is estimated by processing the stator current. Based on the load torque capability at zero speed, it looks useful practically. A second topic is about the Sensorless control for a blower whose speed extends to 140,000rpm.

March 13, 2014 – “Electric Traction Motors for PEV’s” presented by John Miller, Distinguished Scientist, IEEE Fellow Oak Ridge National Laboratory.

April 4, 2014 – “The Semantics of SPIRAL” presented by Prof. Jeremy Johnson, Drexel University.

Abstract: In this talk we reviewed the SPIRAL algorithm and code generation system and outline several ideas for defining and verifying the semantics of SPIRAL expressions. The SPIRAL (www.spiral.net) system generates state-of-the-art code for

various digital signal processing algorithms on a variety of computing platforms and has been used by Intel for their IPP and MKL libraries. SPIRAL uses rewrite rules, at multiple levels, to transform mathematical expression into code.

October 3, 2014 – “Smartphone Security: Attacks and Defenses” presented by Professor Wenliang (Kevin) Du, Syracuse University.

Abstract: The talk consisted of two parts: In the first part, a brief tutorial on smartphone security, covering some of the key features in iOS and Android, as well as how they can be attacked. The second part, the focused was on Prof. Du’s research on Android security, consisting of attacks and defense.

November 7, 2014 – “Plasma Sprayed Hydroxyapatite Coating with Carbon Nanotubes for Orthopedic Implants” presented by Dr. Arvind Agarwal, Florida International University (FIU).

Abstract: The study focuses on using carbon nanotubes (CNTs) as reinforcement to hydroxyapatite (HA) coating for orthopedic implants in terms of mechanical, tribological and biological behavior. The main contribution towards improved fracture toughness comes from the effective crack bridging by CNTs, which is possible due to the good HA-CNT interface bonding and high pull out energy of reinforcement from the matrix.

Chapter 17 Executive Officer Meetings:

- The executive officers’ meet every 2nd Friday of the month at noon via WebEx/Audio.
- The remaining 2014 meetings are: Nov. 14th and Dec. 12th.
- Anyone interested in becoming involved in the Nanotechnology Council please contact Randy Boone or Wen Li.

2013 IEEE EnCon:

IEEE Central Indiana Section's
2014 IEEE EnCON

INDIANAPOLIS, IN

NOVEMBER 7, AND NOVEMBER 8, 2014

IEEE Central Indiana Section, one of the largest and most dynamic IEEE sections in the United States, proudly presents its Annual Technical Conference - 2014 IEEE EnCON.

This is an excellent opportunity to keep yourself well aware with the latest trends in the technology, and fortify your engineering knowledge. This conference also brings to you a great opportunity for professional development. The conference comprises excellent talks from some of the eminent professionals of Academia and Industry, Professional Networking and Career Development Opportunities.

Please plan on attending.

More Details and Registration – Please log on to www.cis-ieee.org/encon
 Want to give your career an upper edge? Join IEEE Now – www.ieee.org/join
 For questions & inquires, please contact Stavan Dholakia (stavandholakia@ieee.org)

Continental Breakfast, Lunch, Refreshments, and Conference Kits are included in the registration. Registrations costs are subsidized by the Section

Friday, November 7th (Day 1)
 Theme: Latest trends in Technology

Presentations from the following:
 Information Theory Society
 Communications Society
 Engineering Medicine & Biology Society
 Signal Processing Society

Saturday, November 8th (Day 2)
 Theme: Professional Development

Presentations from the following:
 Professional Activities & Career Services
 Women In Engineering Society
 Consultants Networks
 Signal Processing Society

University Mentors Needed

A Student Branch Mentor is a Section member not associated with the University who is appointed by the local Section, in consultation with the Student Branch members, to be a mentor to a specific IEEE Student Branch. Each Branch Mentor should be a member of both the Section Executive Committee and the Student Branch Executive Committee.

He or she will

- Provide guidance,
- Serve as a liaison between the Student members and the Section Executive, and
- Encourage new graduates to stay active in the IEEE.

Some suggested duties for the Branch mentor include:

1. Meet with Student Branch members regularly.
2. Participate in all Section Executive Committee meetings.
3. Assist the Student Branch in developing effective programs.
4. Provide a dependable bridge between the Student Branch and local Section.
5. Work closely with the Student Branch Counselor and the Section SAC Chair.

Branch Mentors in SEM

We are still seeking mentor candidates for:

- **Eastern Michigan University**
- **University Of Detroit-Mercy**
- **University Of Michigan-Ann Arbor**
- **University Of Michigan- Dearborn**
- **Wayne State University**

If you are interested in participating, please contact:

Nervus Kaja: Student Activities Chair
nkaja@umich.edu

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2015 Officer Elections

As this is written the ballots for officer elections for all of our "Geo-Units" (Section, Affinity Groups and Chapters) have been launched and the 'window' will remain open between October 20 and November 10, 2014.

If you are a member of one of our Geo-Units and have not received a request to vote in an election there may be several reasons:

- Some have their **myIEEE** personal profile set with 'flags' that prohibit sending e-mail or election information,
- If you 'joined' a Geo-Unit after the election ballots were launched, your name would not have been included in the official "SAMIEEE" database.
- If you have failed to renew your IEEE membership in this year, your name will not be in our records.

Recovery:

If you think your name has been 'missed' in error for an election, you may attempt to vote using the 'vTools' system as follows:

- Log into the vTools Website at: <http://sites.ieee.org/vtools/>
- In the left hand buttons locate the "Vote in an election" button.
- Log into the system using your IEEE username and Password
- Select: **Click [here](#) to vote on a ballot.**
- Scan down the list that appears and look in the right hand column for the "Has Not Voted" notation.
- Select that ballot and vote.
- Be sure to 'SAVE' your ballot before you exit from the system.

Write In Officer Positions:

If you want to "Write In" the name of someone who is not on the Ballot, please be aware of the requirements:

Requirements:

The MGA insists that all officer candidates share some common characteristics.

All candidates must:

- *Be a paid up "Member". (We will verify that by submitting the **member number** when we log an officer into the vTools Officer Reporting tool. The system will cross check against the SAMIEEE member database.*
- *Hold member grade of Graduate Student or higher.*
- *To be a candidate for an Affinity Group (AG) or Chapter (Ch) office, you must be a member of the AG or Chapter primary organization.*

If one of these qualifications is not met, the candidate is invalidated for that position.

The complete listing of all the officer positions in Southeastern Michigan Section may be found on the SEM Website at: <http://sites.ieee.org/sem/> Use the Top Banner, and click on the "About SEM" button. Then in the side bar that shows up, click on the "Current Officers" button. In the central page, note the list of officer rosters and click on the most recent.

Alternatively, use the link below, and you should be presented with the current Officer Roster.

http://sites.ieee.org/sem/files/2012/09/Officers_Roster_IEEE_SEM_9.16.2014.pdf

The complete list of Affinity Groups and Technical Societies is shown in the title block with each of the relevant SEM elements. If you are in doubt as to whether or not a particular Chapter or AG represents a Society, you may find that information in the Officer Roster.

It should be noted that we often 'elect' and/or 'appoint' more than one "Vice-Chair" to an Affinity Group or Chapter to handle the multitude of activities that in which a busy organization becomes involved. This is especially true of our "Joint" Chapters where

more than one technical society makes up the Chapter. In this case, we recommend that there be one Vice-Chair for each constitute Society in the Chapter.

Current Election Status:

On October 20 – 22 we "Locked" all the existing ballots into the vTools system and launched the ballots out to the voters registered in the SAMIEEE database at that time.

Once ballots are launched into the system, we cannot 'see' what results are, except to notice the %of voters in that particular Geo-Unit that have actually voted in that particular election. It will only be after the final ballots have been 'closed' that we will be able to extract the election results.

Once we see the election results we will verify any 'write in' candidates, advise those who have been elected to specific offices and report the results to the Section Executive Committee for a final evaluation and validation of the results. After that last step, the election results are considered complete and final.

The Nominations and Appointments Committee then switches operating modes from its "Elections" configuration to its "Appointments" mode and begins to seek possible candidates to fill vacancies left by Geo-Units who failed to elect any candidates into a position, or when a candidate who was elected decides that they are not able to fulfil the duties of their office and resign.

If you would like to work with us to continue finding officer candidates and bringing them 'on board', please contact the Chair of the N&A Committee and volunteer. We look forward to hearing from you soon.

k.williams@ieee.org N&ACom Chair.

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FALL CONFERENCE

Thursday Evening, November 13, 2014

Best Western PLUS Sterling Inn

34911 Van Dyke Avenue, Sterling Heights, Michigan 48312
Tel: +1 586 979 1400

Meeting Agenda:

- 4:00 PM – 5:15 PM Registration
Display Tables / Student Posters / Networking
- 5:15 PM – 5:30 PM Conference Overview / Recognitions
- 5:30 PM – 6:00 PM Panel Discussion
- 6:00 PM – 7:00 PM Breakout Technical Sessions (2 Speakers per session)
- 7:00 PM – 7:45 PM Dinner
- 7:45 PM – 8:45 PM Keynote Speech
- 8:45 PM – 9:00 PM Awards and Recognition



Keynote Presentation: Emerging Nano Science and Technology For Medicine Gregory W. Auner

Strauss/TEAMS Endowed Chair and Director,
Smart Sensors and Integrated Microsystems (SSIM) Program
Wayne State University, School of Medicine

The emerging area of micro- and nano- science and engineering is leading to an unprecedented comprehension of the fundamental building blocks of nature. This technology will most profoundly affect the nature of science, engineering and medicine in the 21st century. Device structures with characteristic dimensions significantly below 1 micron have led to the investigation of a whole range of novel physical and chemical phenomena. In turn, these new phenomena promise to give rise to a new generation of materials and devices working on completely different physical and chemical principles. The newest frontier to nanotechnology is in medicine. Development of new and novel devices will impact areas ranging from molecular imaging and detection, to bio implants, diagnostic, and micro robotics. The major technological barrier to fabricate functional nanostructures is the ability to synthesize nano-structures of sufficiently small dimension, specific pattern and uniform size distribution. Most importantly, these structures must be directly fabricated into microsystems to allow functionality of the structures. Therefore, the implementations of these systems require advanced technologies to integrate the nanostructures to microsystems as well. Without such integration, the functionality of the nanosystems cannot be realized. New technology such as laser induced self-assembly of nanoarray platforms (SNAP), novel materials synthesis, and atomic-layer engineering are key for the development of devices for applications in biological and chemical sensing systems, microfluidic drug and chemical delivery systems, micro imaging systems, and chronically implantable micro and nano devices. As an example, materials synthesis, micromachining and nano integration in microsystems will be presented for an array of applications including a neurological implants for the central nervous system, guided growth of neurons for spinal cord injuries, probing systems for pathogen and cancer detection, and artificial skin sensor arrays for robotics with 108 greater sensitivity than human skin to name a few.



Conference Website:

<https://meetings.vtools.ieee.org/m/27391>

http://sites.ieee.org/sem/files/2013/07/IEEE_SEM_Call-for-Posters_FALLConference_2014.pdf



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Panel Discussion

Moderator:



Dr. Hoda S. Abdel-Aty-Zohdy, J. F. Dodge Chair Professor,
Oakland University

Technical Presentations (after Panel Discussion)

Parallel Presentations Followed by Dinner and Keynote Address

Mobile technologies for homebuilt aircrafts and drones



Sanjay Dhall
Emergent Systems Corp.
Experimental Aircraft
Association

Amateur homebuilt aircraft are an inexpensive alternative for average people to enter the field of aviation. However, certified aviation related autopilot systems tend to be expensive. Meanwhile, rapid advances being made in mobile electronic technologies are enabling availability of dynamic positioning and orientation data. Combining these with off the shelf electromechanical servo devices and display tools, has the potential to offer amateur aircraft builders access to sophisticated control and monitoring technologies without significant costs. This presentation offers some personal experiences of migrating mobile technologies for use in amateur aviation.

Intelligent Energy Control and Management in Hybrid Electric Vehicles (HEVs)



Dr. Yi Lu Murphey
Professor and Chair, ECE,
University of Michigan - Dearborn

This presentation will discuss research in intelligent energy management for Hybrid Electric Vehicles (HEV) and a machine learning framework, ML_EMO_HEV, developed for the optimization of energy management in an HEV, machine learning algorithms for predicting driving environments and generating optimal power split for a given driving environment. The effectiveness of predicting roadway type, traffic congestion levels, driving trends, and learning optimal engine speed and battery power from Dynamic Programming using neural networks trained under the ML_EMO_HEV framework are presented using results from experiments conducted on a simulated Ford Escape Hybrid vehicle model provided by Argonne National Laboratory's PSAT (Powertrain Systems Analysis Toolkit).

Conference Website: <https://meetings.vtools.ieee.org/m/27391>



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Technical Presentations (after Panel Discussion)

Parallel Presentations Followed by Dinner and Keynote Address



Gary Gruenberg, P.E.

US Commercial Nuclear Power

US nuclear power plants have racked up an impressive 50 years of operation without one fatality. Compare this fact with the other major sources of electric generation. It makes you wonder why commercial nuclear power is not booming in the US as it is in China. This presentation will discuss the current state of the US nuclear power industry and its future.

Design and Verification Challenges of Automotive Embedded Systems



Dr. S. Ramesh

Embedded applications like automotive control software are becoming complex: from single to multiple functions and features, from centralized to distributed, federated to integrated architecture, from passive to active control, simple to safety-and business-critical applications, closed to open systems, from single party to multi-party development, from isolated to connected components and so on. Rigorous software engineering of Automotive Control Systems is an important area of research requiring significant involvement of software engineering researchers, domain experts and practitioners. It is a big challenge to build effective methods and tools for developing such systems. In this talk, some of the challenges are highlighted in the context of automotive embedded systems and a few preliminary solutions methods developed by our team are discussed.

IEEE Power & Energy Society Scholarship Plus Program



Kevin Taylor
Chair, SEM IEEE PE/IA

Power and energy engineers work with some of today's most exciting technologies, developing solutions to problems that affect our lives and lifestyles. The PES Scholarship Plus Initiative provides scholarships and real world experience to undergraduates interested in power and energy engineering careers.

Conference Website:

<https://meetings.vtools.ieee.org/m/27391>



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Technical Presentations (after Panel Discussion)

Parallel Presentations Followed by Dinner and Keynote Address

Applying Semantic Technologies in Industry



Dr. Nestor Rychtycky

In a world overflowing with big data, semantic technologies are rapidly becoming a significant factor to help increase understanding and reasoning with different types of data. Semantic technologies include knowledge representation languages such as OWL/RDF as well as tools to create ontologies and support reasoning and inference. They provide significant advantages in terms of flexibility, performance and expressiveness when dealing with disparate data from different locations. This presentation will discuss the use of semantic web technologies in several different industrial applications and show how effective this approach can be.

Micro/Nanotechnology-Enabled Gas Sensing and Nanomanufacturing



Dr. Junghoon Yeom

Timely identification and measurement of gas constituents are essential in many areas of science and technology, and the micro gas chromatograph (μ GC) analyzer are being developed around the world for myriad applications ranging from detecting undesirable compounds in air for security and safety, facilitating process control in industry, and sensing compounds in breadth for health monitoring and diagnosis. Key drivers for the miniaturization efforts include speed (less than a few seconds), cost ($< \$1000$), portability (PDA size), energy consumption (< 10 J), sensitivity (< 1 ppb), and reduction in false positives (< 1 in 10^6). This presentation will discuss at the system level the design, fabrication, and assembly of the UIUC μ GC system and the characterization of the individual components (micro preconcentrator, microvalves, microcolumns, and micro/nano gas sensors). An emphasis will be placed on how the micro/nanotechnologies help us to improve the device performance and address the challenges associated with the scale-up fabrication.



Conference Website:

<https://meetings.vtools.ieee.org/m/27391>

Section Volunteer Options:

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

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

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

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

<https://ieeefluidsveys.com/s/semcommittee/?code=>

Technical Activities committee led by Doctor **Ali Eydgahy** is seeking of experienced IEEE members to serve as 'Mentors' to help guide and encourage Chapters in our Section to achieve their full potential.

Each of these officers work with the leadership of the individual Chapters and Affinity Groups (Units) in their "Cluster" as a mentor to promote, encourage and ensure effective functioning and reporting.

We currently are searching for a **Technical Activities Coordinator** to coordinate the **Computers and Systems group**:

- Ch 1 Signal Processing / Circuits & Systems / Information Theory.
- Ch 3 Aerospace & Electronic Systems / Communications.
- Ch 5 Computers
- Ch 14 Robotics & Automation
- Ch 16 Computational Intelligence / Systems, Man and Cybernetics.

In essence, they will serve as a 'coach' for the Unit officers.

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

<https://ieeefluidsveys.com/s/semcommittee/?code=>

Secretary Opportunities:

Several of the IEEE SEM Committees are in need of Secretaries.

At this time we are looking for several members who are willing to learn and grow into the Secretary positions with the following

- Education Committee,
- Communications and Marketing Committee,
- PACE Committee
- Membership Committee,
- Nominations and Appointments Committee,

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

We are contacting our members who have are not members of any technical Society first, since participation in a Committee does not require alignment with a society as a requisite factor.

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

<https://ieeefluidsveys.com/s/semcommittee/?code=>

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Executive Committee

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

The SEM Executive Committee meets in a teleconference each month on either the first Wednesday 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 Website first page.

If you wish to attend, or just monitor the discussions, please contact David Mindham, the Section Secretary at:

dmindham@ieee.org and request to be put 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:

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

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

Chapters to send their meeting information to our Webmasters who post the meeting information on the Website Calendar.

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

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

David Mindham - SEM Secretary

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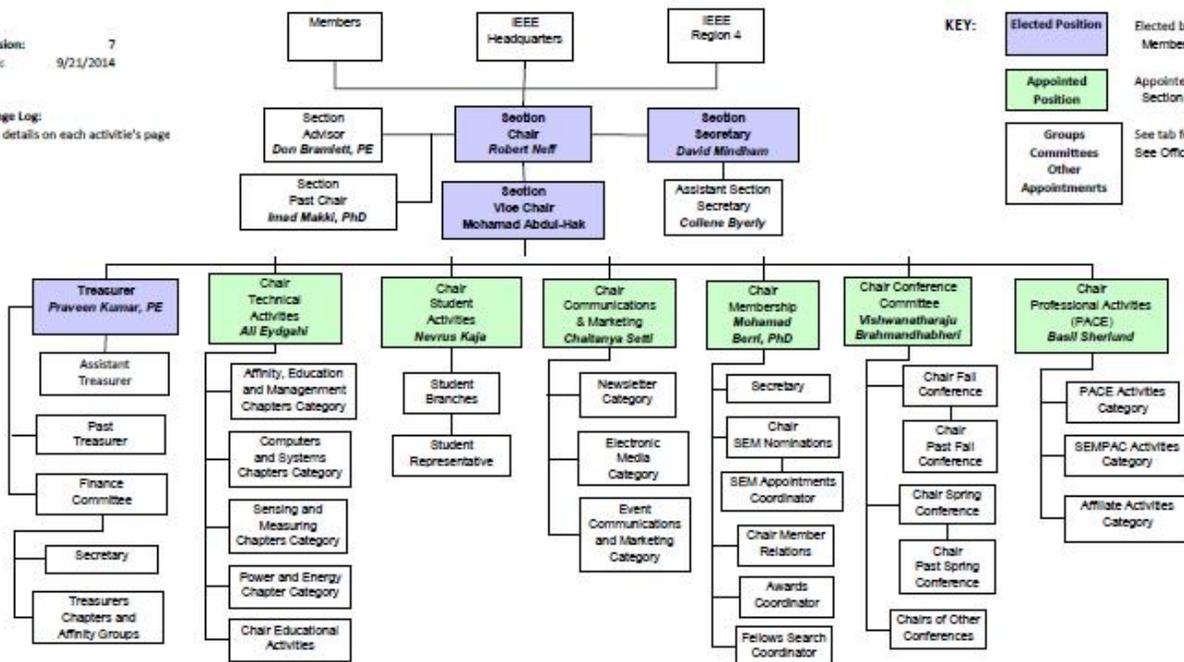
2014 Organization - IEEE Southeastern Michigan Section (SEM)

Revision: 7
Date: 9/21/2014

Change Log:
See details on each activity's page

KEY:

- Elected Position Elected by Section Membership
- Appointed Position Appointed by Section Chair
- Groups Committees Other Appointments See tab for details See Officers Roster



Section Mission & Goals**Section Focus:**

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

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

Section Mission

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

For the purpose of:

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

Section Goals

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

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

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SEM 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.(See Below)

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

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

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

This will ensure we have sufficient space, refreshments and support for everyone who joins the meetings.

Teleconference Schedule

(held from 12-1 PM):

- Wednesday, November 5th
- Thursday, December 4th

F2F Meeting Schedule:

- 2015 meetings TBD

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

vTools Schedule:

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

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

These announcements refer to:

Standing Committee Meetings:

Affinity Group Meetings:

Technical Chapter Meetings:

University Student Branch Meetings:

Calendar Schedule:

Meetings are also announced on the SEM Web page Calendar

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

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

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

Many volunteers get interested in Section activities when they get a chance to attend an 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

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Editors Corner

This is the 9th 2014 issue of the Wavelengths newsletter.

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

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

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

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

Wavelengths – Focus Plan:

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

Wavelengths – Personal Profiles:

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

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

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

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

Letter to the Editor:

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

Co-Editors:

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

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

k.williams@ieee.org

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Web & Social Sites

SEM Website

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

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

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

SEM Facebook Page

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

SEM LinkedIn Page

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

SEM Officers:

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

SEM On Line Community

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

Section Officers

Section Chair
Robert Neff

Section Secretary
David Mindham

Section Vice-Chair
Mohamad Abdul-Hak

Section Treasurer
Praveen Kumar

Section Adviser
Don Bramlett

Chair Communications & Marketing
Chaitanya Setti

Chair Conferences
Raju Brahmandhabheri

Chair Educational Activities
Chaomin Luo

Chair Finance
Bassel Atallah

Chair Membership
Mohamad Berri

Chair Nominations
Chaitanya Setti

Chair Professional Activities
Basil Sherlund

Chair Student Activities
Nevrus Kaja

Student Representative
Hanan Mekawy

Chair Technical Activities
Ali Eydgahi

Past Section Chair
Imad Makki



IEEE Southeastern Michigan

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

Leadership Meetings

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

Advertising Rates

SEM Website & Newsletter
Advertising Rates / Month:

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

Full page \$500,

Half page \$250

Quarter page \$125,

Eighth page \$65.

SEM Executive Committee Monthly Teleconferences:

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

SEM Executive Committee Face-to-Face Meetings:

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

SEM Standing Committee Meetings:

SEM Affinity Group Meetings:

SEM Technical Chapter Meetings:

SEM University Student Branch Meetings:

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