

Wavelengths



Volume 64 – Issue 9

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Upcoming Events

We have several events coming up this month, all are listed below, FYI.
Note: All times are EST/EDT. If any events are missed do kindly bring them to the attention of wavelengths@ieee-sem.org. Enjoy!

You can also use this bookmark to view All of the links at a single glance
<http://bit.ly/sem-upcoming>

Event	Date	Time
IEEE SEM YP AFFINITY GROUP ADMIN MEETING - SEPTEMBER 2024	04-09-2024	1800 hours
AI in Agriculture	09-09-2024	1130 hours
SEM Life Members Affinity Group - Admin Meetings - 2024	09-09-2024	1200 hours
Southeastern Michigan Computer Chapter Admin meeting	09-09-2024	1930 hours
IEEE SSIT Lecture: Automating Empathy in Human-AI Partnerships: Issues, Ethics and Governance	10-09-2024	1800 hours
Rapid nearfield pressure calculations with FOCUS, the 'Fast Object-oriented C++ Ultrasound Simulator'	10-09-2024	1800 hours
Ch8: AdCom Teleconference	12-09-2024	1100 hours
SEM Section ExCom Monthly Meeting (In Person) For SEPTEMBER 2024	12-09-2024	1830 hours
Southeastern Michigan Section Senior Member Elevation (an In-Person Event!)	14-09-2024	1000 hours
IEEE 140th Anniversary Celebration	21-09-2024	1500 hours

Chair's Column

What to look forward to this month of September:

- ✓ **SAVE THE DATE (2024-09-21)! The IEEE is now 140 years old.** We have an active volunteer planning committee going. The venue has been decided – it is the Wright Museum of African American History in Detroit, Michigan. You can look up details about this at <https://thewright.org>. Registration for attendance is still open and we should emphasize that family members are encouraged to attend, so they can meet fellow IEEE members and their families! We have invited several distinguished IEEE leaders and a speaker from the IEEE History center. They will share a lot about the IEEE and our contributions to society. In addition we will have member **awards** and **recognition**, a **sumptuous dinner**, **museum tour** and memorable eclectic entertainment. Send any of your queries/emails to 140@ieee-sem.org

Volunteering:

- ✓ We, IEEE Southeastern Michigan Section, function based on the work of our volunteers. If someone has important obligations that reduce their ability to volunteer, other volunteers need to step in and carry the load. The more volunteers we have, the easier the workload on everyone. Please volunteer, you will find the experience interesting and rewarding. There is a dedicated article on volunteering elsewhere in this edition.

What to look forward to:

You can find ALL the other upcoming events using the short URL link: <https://bit.ly/sem-upcoming>

Remember – every little bit helps, and the Section is here to help! If you have not taken the opportunity, do reach out to any of the Section officers (lifelong email contacts listed below). Who knows what unknown but immense value you may discover, by simply connecting with us. A possible membership annual rate discount, OR an upcoming soft skills event OR need of a professional member for a technical person resource OR opportunity to participate in a standards making process OR a chance to mentor a young graduate student in a domain badly needed in our section of the world OR network with a book publisher OR....the possibilities are limited only by your enthusiasm. If you look at the events graphics included – it shows a slight drop and also a few unreported events, which can be easily remedied inside of 30 seconds.

Finally, I ask you to help share news about our IEEE Section to fellow engineers. This will help us fulfill the mission and goals, which is to use technology to help society. Do help us gain more visibility – word of mouth, invitations to our tech events, skills, join as members, post our events to your social media feeds, etc.

Also of note – we take a great deal of interest in our members welfare. The **5th senior member elevation** event is taking place soon (September 14th). See the announcement in this issue. Note we have been timing these 3 weeks before each A&A panel meeting!

I look forward to hearing from you and seeing you at our events. As always, your ideas and suggestions are encouraged and welcome. If I don't hear back (good or bad) I will assume all is well 😊



Sharan Kalwani

Via email: chair@ieee-sem.org

Section members are encouraged to engage using any of these online platforms:



To reach any of our SECTION officers, for any help/assistance you seek you may try these easy to remember email addresses. The objective is to ensure business continuity, so one need not try to remember or hunt for the contact information! They can help you find your chapter officers or point you in the right direction for any query. They are:

📧 Chair is	chair@ieee-sem.org
📧 Vice Chair is	vicechair@ieee-sem.org
📧 Treasurer is	treasurer@ieee-sem.org
📧 Secretary is	secretary@ieee-sem.org
📧 Advisor is	advisor@ieee-sem.org
📧 140 th event celebration team:	140@ieee-sem.org

📖 Southeastern Michigan Section, IEEE Region 4

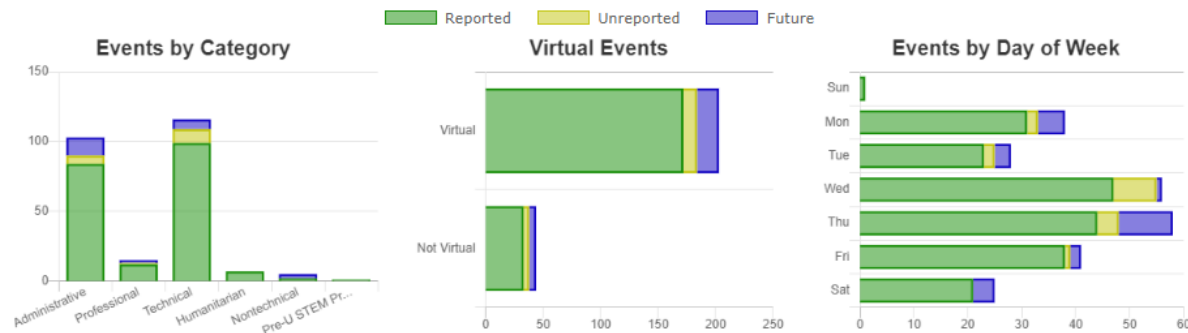
EVENTS ACTIVITY

Year [?]
 Organizational Unit [?]
 Child OUs [?]

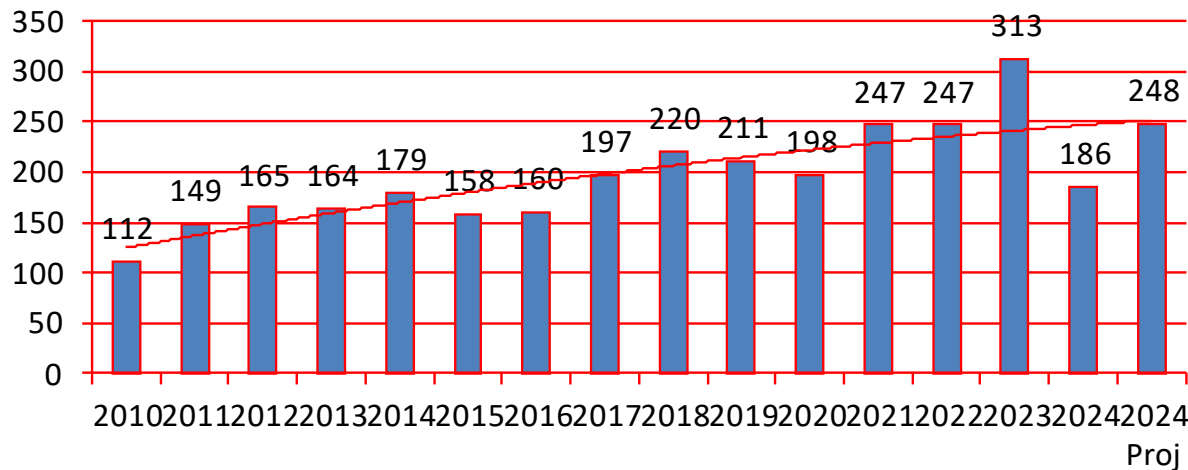
R40035 - Southeastern Michigan Section Charts [?]

ⓘ These data counts and charts include the selected OU and all related organizational units. See below for individual OU numbers and charts.

Name	Prof	Tech	Non-Tech	Admin	Hum	Pre-U	Total
Southeastern Michigan Section	15	116	5	103	7	1	247



vTools Activity Reports



Tech Activities REPORT

Report ending: August 28th, 2024

Ch's & AG's	Ave Tech Mtg. Attend	Ave Tech Mtg Guest	#L31 -Technical	#L31 -Admin	#L31 Professional	#L31 -Other	Geo-Unit Name	# Unreported	Total Mtgs
Cnslt	0	0	0	0	1	0	Consultants Network	0	1
LIFE	0	0	0	8	0	0	Life Members	0	8
WIE	29	21	2	7	2	0	Women In Engineering	0	11
YP	13	0	2	7	0	0	Young Professionals	0	9
1	0	0	0	5	0	0	Circuits & Systems, Signal Proc., Info Th.	0	5
2	117	21	4	3	0	0	Vehicular Technology	1	7
3	0	0	0	0	0	0	Aerospace & Elec. Sys., Communications	1	0
4	29	0	5	0	0	0	Trident (Ant, Elect Dev., uWave, Photo)	1	5
5	49	6	41	7	4	4	Computers	2	56
6	19	1	3	0	0	0	Geoscience & Remote Sensing	0	3
7	55	2	2	5	0	1	Power Engineering, Industrial App.	1	8
8	81	37	8	6	0	0	Electromagnetic Compatibility (EMC)	1	14
9	107	0	1	5	0	0	Power Electronics, Industrial Electronics	2	6
10	4	1	1	5	0	0	Engineering Management	0	6
11	0	0	0	2	0	0	Eng. in Medicine & Biology	0	2
12	16	2	1	1	0	0	Control Systems	0	2
13	0	0	0	0	0	0	Education	0	0
14	23	0	2	1	0	1	Robotics & Automation	0	4
15	29	0	5	0	0	0	Nuclear Plasma Science Society	1	5
16	0	0	0	1	1	0	Computational Intelligence / Sys.Man.Cyber.	1	2
17	16	1	3	0	0	1	Nano Technology Council	0	4
18	20	11	1	1	0	0	Magnetics Society	0	2
									0
SEM	111	61	3	18	4	1	SEM (Section)	6	26
Tot	717	162	84	82	12	8	NOTE: Highlight Green = Active	17	186
		23%					NOTE: Highlight clear = Concern		

SEM Section Chapter and Affinity group leaders who are not showing any technical or administrative meetings are encouraged to reach out to the TAcOm for assistance. Those chapters and groups with unreported meetings please update your L31 reporting. Please refer to the Section Health snapshot. During a TAcOm meeting this month actions were discussed to become more engaged with our Student Branch and Awards and Recognition committees. Plans are also being put into place to aide chapters with conducting this year's Section elections. We continue to exceed our projections for technical meetings hosted for our membership. Thanks to all GAs working to engage their membership.

V/r Jeffery V. Mosley

Chair, Technical Activities Committee (TAcOm)

jvmosley@ieee.org

This Month in September

Or: Notable Events in Engineering & Science History, which I Did Not Know! ☺

Ernst Weber; Born 6 Sep 1901; Died 15 Feb 1996 at age 94.

Austrian-American electrical engineer who contributed to the development of microwave technology, applied in radar and communications systems. During WW 2, he led researchers solving the problems of accurately measuring very high frequency microwaves, essential for the calibration of radar. (This involved learning how to coat glass tubes with a very thin layer of conducting metal, which Weber derived from the ancient skill of decorating chinaware with gold and silver, followed by success using a mixture of platinum and palladium.). The team created other designs and production techniques that helped the overall development of radar during the war. His expertise later guided the growth of the Polytechnic Institute in New York City.

David Packard; Born 7 Sep 1912; Died 26 Mar 1996 at age 83.

American entrepreneur and electrical engineer who co-founded the Hewlett-Packard Co., a leading manufacturer of computers, computer printers, and analytic and measuring equipment. In 1939, he formed a partnership known as Hewlett-Packard Company with William R. Hewlett, a friend and Stanford classmate. HP's first product was a resistance-capacitance audio oscillator based on a design developed by Hewlett when he was in graduate school. The company began with \$538 in initial capital, and its first production facility was a small garage in Palo Alto.

Edward Johnson; Died 9 Sep 1917 at age 71 (born 4 Jan 1846).

Edward Hibberd Johnson was an American electrical engineer and inventor who spent many years in various business projects with Thomas Edison, including as vice-president of the Edison Electric Light Company. They met when Johnson, as manager of the Automatic Telegraph Company, hired the 24-year-old Thomas Edison. As Edison's talent as an inventor propelled him into developing his invention laboratory and commercial enterprises, Johnson became his business executive and eventually president of Edison Electric Illuminating Co. of New York (organized 17 Dec 1880) which later became today's Con Edison. Johnson created the first electric lights on a Christmas tree on 22 Dec 1882, which he displayed in the window of his New York home. The hand-wired string of bulbs had been made for him, with 80 walnut-sized lamps glowing in equal numbers of red, white and blue light.

Harvey Fletcher; Born 11 Sep 1884; Died 23 Jul 1981 at age 96.

American acoustical engineer who was the first to demonstrate stereophonic sound (1934). He was a trail blazing investigator of the nature of speech and hearing, noted for his contributions in acoustics, electrical engineering, speech, medicine, music, atomic physics, sound pictures, and education. He guided the development of the Western Electric Hearing Aid, the first such device to use vacuum tubes. He developed a group survey method using recorded sound of decreasing volume which has wide acceptance in schools throughout the nation.

Alexander Meissner; Born 14 Sep 1883; Died 3 Jan 1958 at age 74.

Austrian engineer whose work in antenna design, amplification, and detection advanced the development of radio telegraphy. In 1907 he joined the Telefunken Company of Berlin, where he conducted research on radio problems. He improved the design of antennas for transmitting at long wavelengths, devised new vacuum-tube circuits and amplification systems, and developed the heterodyne principle for radio reception. In 1911 Meissner designed the first rotary radio beacon to aid in the navigation of the Zeppelin airships. In 1913 he was the first to amplify high-frequency radio signals by using feedback in a vacuum triode; this principle made it possible to build radio receivers more sensitive than any earlier type.

Sir Arthur Percy Morris Fleming; Died 14 Sep 1960 at age 79 (born 16 Jan 1881).

English engineer who was a major figure in developing techniques for manufacturing radar components. During WW 1, Fleming made important advances in submarine-detection gear. In 1920, as a pioneer in the development of radio, he established in Manchester the second British transmitting station to broadcast programs on a daily basis. His work on demountable, high-power thermionic tubes made it possible to establish radar stations in Great Britain by the time WW 2 began in 1939.

Georges Leclanche; Died 14 Sep 1882 (born 1839).

French engineer who invented the wet cell Leclanché battery (1866), ancestor of the familiar carbon-zinc dry cell batteries used to power portable electric lights and electronic devices. His wet cell, provided an e.m.f. of about 1.5 volts. A porous pot containing manganese dioxide and a carbon rod as current collector was immersed in an electrolyte of ammonium chloride solution with a negative terminal of zinc metal. From 1867, Leclanché gave full-time attention to his invention, which was adopted the following year by the Belgian telegraph service. He opened a factory to manufacture the battery. In

1881, J.A. Thiebaut had the idea of packing the chemicals in a zinc cup. Carl Gassner made the first commercially successful “dry” cell.

Oswald Garrison Villard; Born 17 Sep 1916; died 7 Jan 2004 at age 87.

American electronics engineer who developed over-the-horizon radar (a way to detect objects out of direct sight by bouncing radar off the ionosphere, an electrically charged layer in the upper atmosphere) so radar could peer around the Earth's curvature to detect aircraft and missiles thousands of miles away. His interest in electricity began with a copy of Harper's Electricity Book for Boys. At age 12, he put together a radio from a kit. During WW 2, he researched countermeasures to protect Allied forces against enemy radio and radar devices. He made pioneering studies of radar jamming. In 1947, he designed a simplified voice transmitter permitting two-way communication on a single radio channel, such as a telephone conversation.

William Playfair; Born 22 Sep 1759; died 11 Feb 1823 at age 63.

Scottish engineer and economist who pioneered the graphical representation of statistics, creating the line graph, bar graph and pie chart, though his name is little known. His inventions and patents included metal-working machines, the mass-production of silver-plated spoons, improvements to agricultural implements, and modification of the bows to ships to improve speed. He had gained experience as apprentice to Andrew Meikle (inventor of the threshing machine) and working with James Watt and Matthew Boulton (manufacturers of steam engines). Playfair's book Commercial and Political Atlas (1786), which introduced his graphical display methods, was the first major work to use statistical graphs.

Robert Bosch; Born 23 Sep 1861; died 9 Mar 1942 at age 80.

German engineer and industrialist who was responsible for the invention of the spark plug and magneto for automobiles and whose firm produced a wide range of precision machines and electrical equipment in plants throughout the world.

Seymour R. Cray; Born 28 Sep 1925; died 5 Oct 1996 at age 71.

American electronics engineer who pioneered the use of transistors in computers and later developed massive supercomputers to run business and government information networks. He was the preeminent designer of the large, high-speed computers known as supercomputers. { Editor's Note:" I actually met him on the second day of getting hired job at Cray Research Inc in Minnesota – 1988 }

Nils Bohlin; Died 26 Sep 2002 at age 82 (born 17 Jul 1920).

Swedish engineer who invented the familiar three-point lap and shoulder seatbelt which is considered one of the most important innovations in automobile safety. Bohlin left the aircraft industry, where he worked on jet ejector seats, including restraints, and joined AB Volvo in 1958 as safety engineer, where he invented and patented this device. In Aug 1959, Volvo was the first car manufacturer to introduce the three-point seat belt in their cars. They made this design freely available to other car manufacturers to save more lives. Bohlin holds several patents related to automotive and aviation design. After retiring from Volvo in 1985, he continued to give lectures and present papers relating to automotive restraint issues.

Sharan Kalwani

*2022-2024 Chair, Southeastern Michigan Section,
Passionate Engineering History Buff/Aficionado*

Newest Senior Members!

The IEEE southeastern Michigan Section is extremely proud and happy to welcome members, who recently got upgraded to senior status. It is all part of our Membership Development on-going initiative to play a role in the professional lives of our members and support them in every which way possible. Congratulations to all and feel free to contact them.

Mohamad Berri & Sharan Kalwani.
Membership Development committee

Ravidndra Kale:

Ravindra Kale received his B.E. degree in Mechanical Engineering from University of Pune, India in 2010, and M.S. in Mechanical Engineering from Ohio University in 2012. After graduating, he started working as a Systems Engineer in ZF's Body Controls Systems Division specifically focused on HVAC controls. In this role, he started with initial assignment of development of HIL Test System for HVAC controls and then pivoted to conventional Systems Engineering role of defining System Requirements, System Behavior and System Architecture. Then, he went on to work for ZF's Steering Division and ADAS Division as a Systems Engineer. Currently, he works as a Systems Engineer for General Motors, and his focus is defining system requirements and system architecture for GM's Viewing Systems.



Elections 2024

A new, revised IEEE MGA procedure requires ALL Chapters and Affinity Groups to conduct their own elections and reduces the timeframe to 4 months as shown in the schedule below.

This new process requires direct involvement by each and every Geo-unit.

This year's recommended schedule from MGA HQ is as follows:

Task:	Sample Date:	Duration:
Appoint Elections Committee	1 August	Start no later than 1 August
Call for Nominations Issued	5 August	Open 30 days minimum - required
Call for Nominations Closed	5 September	
Candidates Reviewed	6-12 September	On average 7 days
Slate Approved by ExCom	13-19 September	On average 7 days
Region Director Approval <i>(if necessary for single candidate slate)</i>	20-26 September	On average 7 days
Slate Announced and Petition Opens	27 September	Open 30 days minimum - recommended
Petition Closed	27 October	
Petition Candidates Reviewed	28 October-3 November	On average 7 days
Final Slate Approved by ExCom	4-10 November	On average 7 days
Final Slate Announced	11 November	
Voting Opens	11 November	
Voting Closes	25 November	Open a minimum of 2 weeks - required
Final Results Announced and Officers Recorded	15 December	Announce results no later than 15 December

This year we elect our 2025 set of officers for all Geo-units (Affinity Groups & Technical Chapters). Those officers include the Chair / Vice-Chair / Secretary / Treasurer.

Links to MGA training materials, including recordings of their virtual training session may be found as listed below:

MGA Geographic Unit Election Training Materials**15 July 2024 Training:**

1. Slides:
 - o <https://docs.google.com/presentation/u/0/d/1ONfiVkhbDO9P9LVqjP-Pqut6THzZmAFH/edit?fromCopy=true&ct=2>
2. Recording:
 - o <https://ieeewebex.com/webappng/sites/ieeewebex/recording/64a1ae90253d103dabfc9a7245ce3034/playback>

Links to frequently asked questions may be found at:

<https://docs.google.com/document/d/1L0s5SMZTgtokTFRHwjDlcNLAn7YxWqePukU5zpp6kwM/edit>

Links to most Job Descriptions may be found on the SEM Volunteer Portal at:

<https://r4.ieee.org/sem/aboutsem/volunteer-portal/>.

Links to the Affinity Groups and to the Chapters may be found at:

<https://r4.ieee.org/sem/aboutsem/sem-chapters/>

Note: Student Branches and HKN Chapters elect their officers on their individual schedules independently on their own.

Direct questions to: K.williams@ieee.org

Helpful information for Chapters and Affinity Group Leaders as you prepare for your Geographic Unit Elections:

- Each Chapter and Affinity Group should establish an Elections Committee, comprising of 3 Chapter or Affinity Group members who ideally are not current Chapter/Affinity Group Officers (Chair, Vice Chair, Treasurer and Secretary) and who are not putting themselves forward for consideration for the slate of officer positions.
- One current Officer can serve on the Election Committee but cannot be its Chair.
- The position of "Teller and vTools lead" on the Election Committee can be filled by any member of the Section (does not have to belong to the Chapter/Affinity Group forming the Committee).
- If there are still issues getting volunteers for the remaining positions on the Elections Committee, please reach out to the Section Chair for alternatives such as aligning with Section Elections (having the same Election Committee) or granting exceptions.
- The Region shall be informed of any such exceptions or alternatives.
- The Nominations/Elections Tool is not yet available for Chapters, Chapters and Affinity Groups can form the Election Committee manually.
- Chapters and Affinity Groups can use eNotice to send out the Call for Nominations and use vTools Voting.

vTools Training:

Many of our officers and members may not be familiar with the special electronic 'tools' that have been developed by the IEEE committees working with MGA (Member Geographic Association) designed to help officers in IEEE Chapters, Affinity Groups, Student Branches and HKN Chapters. The use of some of those tools (see insert to right) will help by making several of the election tasks much easier. (Note the tools shown in **bold text**.)

Access the vTools main page at: <https://vtools.ieee.org/>

Note: To use some of the vTools, each active officer or committee member must be listed in the vTools Officer Reporting tool for the specific Geo-unit (Chapter / AG). The current Geo-Officers (especially the Chair) has the authority to appoint members of his/her Geo-unit to committee posts as needed. (These appointed officers do not need to run for election.)

When the vTools page is opened, in the top header bar you should notice the '**Tutorials**' Button. This will take you to the page where you can select detailed tutorials covering the use of each of the commonly used vTools.

[Doodle](#)
[IEEE Events Finder \(Android\)](#)
[IEEE Events Finder \(iOS\)](#)
[IEEE Functional Alias Request Form](#)
[IEEE Membership Validator](#)
[IEEE OU Analytics](#)
[IEEE Web Hosting](#)
[Other Volunteer Tools](#)
[Remote Conferencing](#)
[Survey Access Request Form](#)
[vTools Engage](#)
[vTools eNotice](#)
[vTools Events](#)
[vTools Local Groups](#)
[vTools Nominations](#)
[vTools Officer Reporting](#)
[vTools Student Branch Reporting](#)
[vTools Voting](#)
[WebEx Request Form](#)

The vTools most needed during elections are **eNotice, Membership Validator, Officer Reporting** and **Voting**.

Each of these tools has a specific tutorial, except for the Membership Validator. This tool is so straightforward and self-explanatory that it only requires knowing the member's IEEE Member number, or the email address the member uses in their IEEE personal profile. The member number is the most reliable, since many members sign up as IEEE members using one email then routinely chose to use a different email for their normal communications.

Once the members IEEE number is entered the tool returns enough information to determine if the member is:

Active, their **Grade**, (Students may not hold a Chapter or AG office – Graduate Students are OK.) and which **Societies** they belong to. Candidates for office must reside in the Section, be an Active member, and belong to at least one of the supporting Societies or Affinity Groups which is the focus of the election.

See the example at the right:

Occasionally we have a member who joined IEEE in another section and move to Michigan and forget to update their personal profile to show that they are now located in our Section. To allow them to stand for election they only need to update their IEEE personal profile.

Unfortunately, the Membership Validator does not show the Section of record, and only when using the Voting tool will it be evident when an error message indicates the candidate is not a resident of the Section.

Membership validation status

First and last name initials: K. W.

Membership status: Active

IEEE member grade: Life Senior

Standards Association Member: Yes

Society membership(s):

- IEEE Antennas and Propagation Society Membership
- IEEE Electromagnetic Compatibility Society Membership
- IEEE Geoscience and Remote Sensing Society Membership
- IEEE Magnetics Society Membership
- IEEE Microwave Theory and Technology Society Membership
- IEEE Oceanic Engineering Society Membership
- IEEE Product Safety Engineering Society Membership
- IEEE Society on Social Implications of Technology Membership
- IEEE Technology and Engineering Management Society Membership
- IEEE Vehicular Technology Society Membership

Officer Training

We encourage members who are considering running for an officer position to take advantage of the 'Training Materials' available on the IEEE SEM Website at: <https://r4.ieee.org/sem/aboutsem/training/>

FREE Voice over Power Point Training: On-line virtual training modules are available through the SEM Website Training page. These videos will play directly and immediately from Google Chrome browser. They may not work well using Internet Explorer.

Turn OFF your pop up blocker if you don't see it load or download.
Blank Titles (Links) are in development.

(If you wish to rewind sections and play again, we suggest you download the module to your computer and play it using your systems 'media player'.)

Note: If you are beginning training, we recommend starting with Module # 46: Virtual Training Plan, and follow its recommendations for the training sequence. Send Questions about these Training Modules to: k.williams@ieee.org

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Amateur Radio/Careers in ECE

Ward Silver (NØAX) (Reprint from IEEE HKN Bridge Magazine: 2019 Issue 2 / Volume 115)

I stumbled on to amateur radio by finding a QST magazine (<http://www.arrl.org/qst>) in the library sometime in 1966.

A few years of collecting old electronic parts later, I was tutored on the Morse code by a high-school friend and became WNØGQP in early 1972, later NØAX which is the call sign I hold today. Thus, I launched on an electrical engineering career through the University of Missouri – Rolla (now the Missouri University of Science and Technology) where I discovered both the campus Radio Club (WØEEE) and the campus FM station (KMNR).

After college, I worked as a field and product development engineer in several fields through 2001, then switched to teaching and writing. Today I am a Contributing Editor for the ARRL in charge of the ARRL Handbook [1] and several other widely read publications. At each stage of my professional career, the experiences I gained in amateur radio have been invaluable. This article explains why. As newly graduated engineers quickly find out, the real world is a whole lot more complex than the homework and laboratory projects in school.

Those first few years are crucial in getting up to speed and learning not just the technology, but the profession. Any extra background or experience gives you an edge — so where do you get it? That’s where “ham radio” (amateur radio) comes in. Fear of Knobs In working with new engineers and teaching electrical and computer engineering laboratories, it’s quickly apparent who has some practical experience by the way they handle equipment and materials.

An electronics hobbyist, ham or not, has little hesitancy at the workbench. They lost their fear of knobs long ago! Instrumentation, radios, power supplies, cables, connectors — all are tools in their toolboxes to be applied to the problem at hand. In operating a ham radio station, there are a myriad of adjustments and configurations with which to experiment, getting nearly real-time feedback over the air.

Experimenters can build, test and use their creations every day. The soldering iron, compiler or drill press stays active and in use! Understanding Radio Frequencies It’s one thing to have a good understanding of the many equations that describe communication processes and signals. It’s quite another to have a visceral grasp of the physical phenomenon those equations represent. Sidebands are a sine function on paper and a blip on a spectrum analyzer screen but on the air you can experience them by tuning a receiver.

MATLAB is great, but there’s no substitute for energetically adjusting a receiver to get rid of an interfering sideband or intermodulation product that is covering up a faint signal coming in from the other side of the planet or reflecting off the moon!

Hams also get a great feel for how radio frequency (RF) energy flows around and through equipment.

That “ground” conductor that works so well at 60 Hz is more like an antenna at Very High Frequency (VHF) and might even disappear entirely at certain frequencies! In setting up a station, you quickly learn that every wire, cable, and cabinet is part of your antenna system, including the operator.

You start thinking in terms of a wave instead of just voltage and current. Everything Matters Given the limited resources available to most hams, you quickly learn that even the most expensive radio can be quickly rendered non-operational by any of its supporting components. Power supplies have to meet specifications over a wide range of loads and environments. Cables and their connectors have to be installed properly and weatherproofed securely. Software interfaces and protocols have to be configured correctly. Antennas have to be pointed in the right direction and held there. Propagation changes every day, every hour, and every minute, challenging the ham to maintain communication in the face of often wild swings in signal strength and quality. And the sun, the geomagnetic field, the atmosphere and the ionosphere have to cooperate. In wireless communications, everything really does matter.

You get very good at estimating what it takes to make the system work and troubleshooting it when it doesn’t. Troubleshooting is probably the hardest skill to teach in any field and is one of the most important things amateur radio has to offer an engineer. You learn about breaking down a problem, isolating and testing system components and recognizing signatures of various behaviors. You also learn to respect design and operating margins in a way that “book learning” simply cannot teach.

The System Big Picture Here we arrive at what really makes amateur radio experience valuable — recognizing that you are really working with a system, not a collection of bits and pieces. In addition, you might not have control over some of the most crucial elements. If your team supports the local emergency communication systems, you’ll have to work with public safety agencies and comply with the National Incident Management System. In your university club, you’ll have to work with budgets and the administrators of the building housing the station. All of these things are part of your system, just like an amplifier, modem or tower.

A Community of Hams Not only does amateur radio depend on equipment, it depends on the hams to make it work — several million around the world, with three-quarters of a million here in the US. Your ham license or “ticket” serves as an introduction and connection to them all.

Whether the relationship is professional or personal, the resources available to you as an amateur are incredibly broad. Several IEEE colleagues and I have described our amateur radio experiences in IEEE Microwave Magazine. [2,3] I recently interviewed Toni Linden, amateur call sign OH2UA. He's the CEO of KNL Networks (Copenhagen, Denmark — nlnetworks.com). [4] I asked Toni about how his ham radio experience in worldwide competitions helped him build a worldwide communications service. He was unequivocal in his advice to young ham engineers:

“Be open-minded about what you want to be and grow into other careers. Ham radio really provides a wide background in electronics and radio. This allows you to grow and move within or between industries very easily.”

“Don't underestimate the network value of amateur radio which is worldwide and very deep.

The word ‘Amateur’ sounds undervalued but ham radio provides a lot of background and impact. Use the network of people you'll connect with – they have many skills and capabilities you can work with. There is a very big community of ham radio operators and they have many resources!”

What began as a bedroom-and-basement hobby for a couple of curious high-school kids and our friends has blossomed into a successful engineering career for Toni and me. We have friends and associates in dozens of countries and experiences with signals “from dc to daylight.” Ham radio has made a big difference in our lives. The relationships and resources to last you a lifetime might be as close as your school's radio club.

Ward Silver received a BSEE from the University of Missouri – Rolla in 1978 and has been a radio amateur since 1972. The combination led him to a 20-year career designing industrial and medical devices. In 2000, he began a second career as a teacher and writer, receiving the Bill Orr Technical Writing Award for 2003 and again in 2016 for QST magazine contributions. He is the President of the Yasme Foundation (www.yasme.org) (a non-profit corporation for conducting scientific and educational projects related to amateur radio), a member of the CQ Contest Hall of Fame, and in 2008 was the Dayton Hamvention's “Ham of the Year.” Ward is Lead Editor of the two primary amateur radio technical references: the ARRL Handbook and the ARRL Antenna Book. He is the author of all three ARRL licensing study guides. Along with Ham Radio for Dummies, he has written Two-Way Radios and Scanners and Circuitbuilding Do-It-Yourself. His most recent book for amateurs is Grounding and Bonding for Radio Amateurs. Getting to Know Ham Radio If this article piques your curiosity about ham radio, an inexpensive and easy-to-read overview is found in the author's Ham Radio for Dummies published by John Wiley & Sons [5]. Now in its 3rd edition, the book is written in the series' friendly informal style to introduce you to 21st century amateur radio. It explains what the amateur service is, what is involved in getting your license, basic technology elements and what there is to do in ham radio. Ham Radio for Dummies by W. Silver. Cover image published courtesy of Wiley and Sons. REFERENCES 1. W. Silver, editor, The ARRL Handbook, 96th Edition, American Radio Relay League, 2018. 2. R. Caverly, “New Technologies and a Tribute to Amateur Radio [From the Guest Editor's Desk],” IEEE Microwave Magazine, Volume: 16, Issue: 1, Feb. 2015, pp 26-27. 3. R. Caverly, W. Silver, A. Katz, M. Franco, R. Campbell, “RF and Microwave Links: The MTT Society and the Amateur Radio Community,” IEEE Microwave Magazine, Volume: 16, Issue: 1, Feb. 2015, pp 50-63. 4. W. Silver, “Ham Radio Put to Work [Ham's Wireless Workbench],” Nuts and Volts, Nov 2018. 5

Next Senior Elevation

IEEE HQ Admission and Advancement (A&A) Review Panel Meeting Schedule

The Admission & Advancement (A&A) Review Panels meet six times annually to review applications and/or nominations for election or elevation to Senior Member (SM) or Life Senior Member (LSM) grade.

- The review panel meetings are held in various locations throughout the world.
- A panel of reviewers is recruited among Senior members, Life Senior members, and Fellows in the section where the meeting is to be held. This full-day session is presided over by the Admission and Advancement Chair and/or Vice Chair, as well as a representative of the Member and Geographic Activities staff.
- **In order for an application to be reviewed at the next Panel meeting, the application, resume, and required reference forms have to be submitted and received at least Seven days prior to the meeting date. [hence †] We have scheduled ours to be on September 14th – giving us enough time to fix any gaps, etc.**
- About two weeks following a review panel meeting, an update report with the names of the **newly elevated Senior members** is published and available for those who hold a volunteer position.

Review panel dates and locations (note: Dates and locations are subject to change without notice.)

Please see Meeting Deadlines (Eastern Standard Time) below for more details.

2024 Meeting Dates	Meeting Deadlines (Eastern Standard Time)
28 September 2024	11:59 p.m. on 21 September 2024
23 November 2024	11:59 p.m. on 16 November 2024



2024 IEEE HQ Panel Meeting Dates

†See our own Section organized event at: <https://events.vtools.ieee.org/m/422558> OR check the Section web site OR see page **XX**

2024 SEM Officers

The IEEE SEM Organizational Roster is Located in the IEEE Southeastern Michigan website at:
<http://sites.ieee.org/sem/>

Under the TAB titled “About SEM” use the button:
“Organization Roster” to download the PDF version of the current Roster.

(Note: It is also a good idea to download the Organization Org Chart as well in order to get the complete ‘big picture’ of the Section.)

(Note: To protect the members from getting spam email, the roster is password protected. Request access by sending email to our web master – Scott Lytle.)

Years ago, we used to publish the complete Chart and Roster in the Newsletter. But that was when we had only 5 committees and 9 chapters.

Today we have 16 committees and sub-committees, 18 Technical Chapters, 4 Affinity Groups and 8 Student Branches. The total roster divides into 12 pages with 247 identified officer positions.

That seems like a large organization, and it is, but it also presents our members with many volunteer opportunities to grow their capabilities through the experience of working with leaders who can guide and nurture engineering talent and widen the scope of volunteering through ‘hands on’ training in those ‘soft skills’ that can only be mastered by ‘doing.’

We often refer to learning the non-technical side of an engineering career as similar to learning to play a musical instrument, or a sport, or how to dance. You can read all the books you want but, you only really learn by doing.

Reading the Roster

Once downloaded notice that the roster is divided into five major segments:

- Executive Committee
- Standing Committees
- Affinity Groups
- Technical Chapters
- Student Branches

Within each segment you should find, at a minimum, the e-mail account for each officer, and in many cases, a work phone and a cell phone for quicker contact.

You may note a number of identified officer roles that have a blank cell (highlighted in yellow) where we would expect an officer name. These are vacant officer positions.

If you notice a vacancy where you might be interested in contributing to fill that role, please contact the relevant ‘Chair’ in that organization and discuss the duties of the office and consider helping out in that element.

As with all others, the road to this learning begins with the first step. That step is inquiring and finding out what skills go with each position. That information is maintained in the IEEE Center for Leadership Excellence at:

<https://ieee-elearning.org/CLE/>

Good luck!

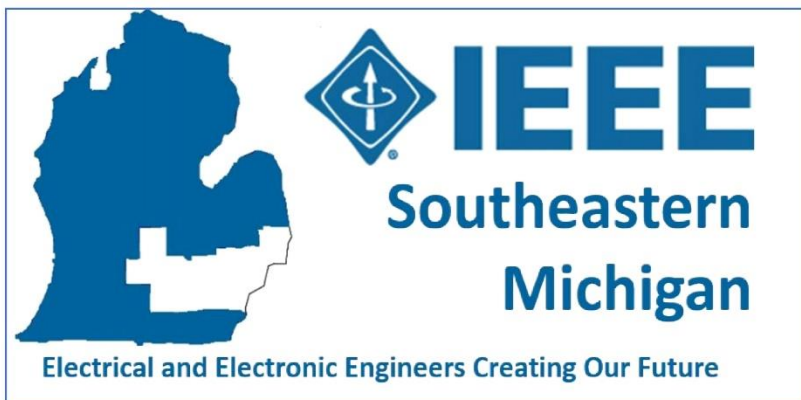
We Celebrate 140th!



Once in a Lifetime
Celebrating the 140th Anniversary of the IEEE

**Afternoon Museum Guided Tour
Cocktail Reception, Section Awards,
IEEE Luminaries Talks, Sumptuous Dinner**

**3:00 to 8:00 pm
September 21, 2024, (Saturday)
The Wright Museum of African American History
Detroit, Michigan**
<https://events.vtools.ieee.org/m/422487>



RoboFest News

- (1) Seeking Part Time Robofest Staff Member**
- (2) Robofest 2024 Appreciation Dinner Scheduled**
- (3) One-week Summer Camp for LTU College Credit: C WITH ROBOTS**
- (4) Introduction to C with Robots Dual Enrollment Class for Fall 2024 Semester**
- (5) 2025 Season Kickoff and World Championship Dates Announced (Tentative)**
- (6) Fall UMC Scholarship Competition and Workshop for High School Students**

Note: All times are listed in EDT unless noted

(1) Seeking Part Time Robofest Staff Member

The Robofest Office at Lawrence Technological University is searching for a **part-time** Coordinator to join the team. This on-campus staff position has flexible hours (average 5-10 per week) with some evenings and Saturdays. US Citizenship or permanent residency is required. The ideal candidate has Microsoft Office and Google app knowledge, as well as some autonomous robotics experience as a coach or participant. This position is eligible for LTU Educational Assistance Program for the individual and dependents (some restrictions apply). Contact the Robofest Office (robofest@ltu.edu) for more information.

(2) Robofest 2024 Appreciation Dinner Scheduled

Save the Date: Thursday, August 22, 5:30 pm~7:30 pm. We are hosting our Site Host, Volunteer and Coach Appreciation Dinner at LTU in the Computer Science Robotics Lab, Room J234. In addition to dinner, we will have some giveaways, share our wrap-up video and season statistics, and announce plans for the 2025 Robofest season. A RSVP form will be emailed soon. We hope you can join us!

(3) One-week Summer Camp for LTU College Credit: C WITH ROBOTS

Space is still available! July 22-26, 2024, 9:00 am~4:00 pm, Lunch provided

C stands out as one of the most widely used programming languages. This intensive camp course covers essential C programming skills, including variable types, conditional statements, loops, arrays, functions, formatted input/output, file operations, and more. A distinctive feature of this camp is the hands-on application of acquired skills to solve robotics problems. Students will actively engage in writing C code for VEX IQ robots, incorporating various sensor types and actuators. The camp course includes 5+ assignments, a project, a quiz, and a final exam, providing a comprehensive learning experience. LTU's Computer Science bachelor's programs require two MCS1111 coding club classes and this camp will satisfy one of them. To register, go to: <https://apply.ltu.edu/register/mcs1111summer24>

(4) Introduction to C with Robots Dual Enrollment Class for Fall 2024 Semester

An introduction to C Programming language using VEX IQ Robots is now offered through LTU's Dual Enrollment program for local High School students. The 2-credit class, instructed by Professors Elmer Santos and CJ Chung, runs on Tuesdays from 8:20 am to 10:00 am. Interested students should have completed intermediate algebra/geometry. Contact Professor Santos (esantos@ltu.edu) or the LTU Admissions office (specialadmit@ltu.edu) for more information.

(5) 2025 Season Kickoff and World Championship Dates Announced (Tentative)

The Robofest 2025 Season International Rules will be released on Saturday, **September 28, 2024**. We will host a series of kickoff meetings to review the rules for clarification prior to the US release in November. All rules will be finalized in January 2025.

The kickoff meetings will be held:

Friday, October 4, 2024 9:00am ~ 10:30am (Zoom only)

Thursday, November 7, 2024 7:00pm ~ 8:30pm (Zoom only)

Saturday, January 11, 2025 10:00am ~ 11:30 am (In person and Zoom)

The 26th Robofest World Championship will be hosted on the campus of Lawrence Technological University on **May 15, 16 and 17, 2025**

(6) Fall UMC Scholarship Competition and Workshop for High School Students

Robofest is hosting our second annual Unknown Mission Scholarship Challenge this fall for High School students to compete to win a \$17,000 Annual LTU Scholarship. Individual students will be challenged to build and program a robot kit

to solve a task in a limited amount of time. The registration fee is \$25. Review the 2024 UMC Rules on the UMC page for the list Robot Kits allowed: <https://www.robofest.net/index.php/current-competitions/unknown-mission-challenge>

Competition: Sat, Nov 2, 2023, 1:00 PM ~ 5:00 PM

At Lawrence Technological University, Robofest Lab, J234

21000 West 10 Mile Road, Southfield Michigan 48075

Building No. 8 on the LTU campus map: <https://www.ltu.edu/about/map> Use parking lot E.

A free workshop has been scheduled for registered students to prepare for the competition using VEX IQ robot kits and VEXCodeIQ. Students who attend this optional UMC workshop may borrow a VEX IQ robot kit for the competition on November 2.

Workshop: Sat, Oct 19, 2024, 1:00 PM ~ 5:00 PM

At Lawrence Technological University, Robofest Lab, J234

Registration links for the workshop and competition will be opened on the Robofest registration site after September 1.

Lawrence Technological University / Robofest / J-233 / 21000 W. Ten Mile Rd, Southfield, MI 48075

Prof. Elmer Santos, Director, esantos@ltu.edu

Shannan Palonis, Assistant Director, spalonis@ltu.edu

Pam Sparks, Coordinator, psparks@ltu.edu

Dr. CJ Chung, Professor of Computer Science, Robofest Founder, Executive Council Chair, cchung@ltu.edu

Dr. Chris Cartwright, Associate Professor of Math, Executive Council Member

Dr. Eric Martinson, Chair of Math & Computer Science Dept, Executive Council Member

<http://www.robofest.net> <http://facebook.com/robofest> <https://www.linkedin.com/company/robofest-official>

ELECTIONS ALERT!**To all IEEE SEM Officers at all levels: IEEE Elections 2024 / 2045:**

In years past, the Executive Committee, and its Standing Committees of Southeastern Michigan Section have conducted ALL the elections for each of our Geo-units (Chapters, Affinity Groups, and the primary Section Executive Committee officers). **This year**, according to the instructions in the MGA Policy and Procedures (P&P) Manual 2024, each Geo-unit is directed to **setup its own election committee**, **nominate its own officer candidates** and **conduct its own elections**.

See the complete instructions in the P&P Manual at:

[https://mga.ieee.org/images/files/Current MGA Operations Manual 2024 22 June.pdf](https://mga.ieee.org/images/files/Current_MGA_Operations_Manual_2024_22_June.pdf)

In Section 9.13. Search for “**GEOGRAPHIC UNIT ELECTIONS**” starting on Page 126.

Other information is available at:

<https://mga.ieee.org/volunteer-hub/geographic-unit-operations/geographic-unit-elections>

Training Sessions were held on July 15th!

Topics Covered:

- In depth Section use of the new Nominations/Elections Tool
- Recap of first training:
 - Elections process overview
 - Highlighting available resources
 - FAQ
- Reminder: Elections to start by 15 August
- Q&A session

Who Should Review: These training sessions are designed for Geographic Unit Officers and Elections (previously Nominating) Committee members working on elections for their Geographic Units. Officers are asked to forward this invitation to their respective Elections (previously Nominating) Committee members.

Reaching Goals:

I want to get more sleep, but I lie in bed playing with my iphone long after I should be asleep. I want to be in better shape, but I find every reason not to work out. I want to do more local work, but I don't pursue work in Denver. Who in Colorado wants to hire me to speak or do some training? Ok, back on track.

To have something different, we need to do something different, and that often means giving something up. Letting go of a habit or pattern is challenging. There's a reason we do what we do. Our habits provide something – comfort, distraction, fun, etc. If you've ever done a ropes course or graduated to a more challenging ski run, you know you need to let go of what feels secure to get to the next level. And letting go can be scary and difficult. But if we don't let go, we get stuck where we are.

Make a list of things you want that you don't have now. Perhaps you want to:

- Learn a new skill or take on a new responsibility at work
- Buy a house
- Save more money
- Be in better shape
- Pursue a hobby

Then I'd ask, what do you need to give up (aka stop doing) to have what you want?

You need to do something differently, or you would already have what you want. Doing something differently could be as simple as telling someone who can help you get what you want. We often tell our coworkers and friends what we want from our job, but we don't always tell the people who can help us get what we want.

If you want a different job, tell someone in your organization who can help you get what you want. Then create a plan with actions you'll take, milestones, dates, and measurable outcomes, and follow up until you attain your goal.

Lastly, accept when you can't get what you want from a person or organization, grieve, and then make a big change. If you have consistently pursued a role in your organization and in two or three years haven't moved toward that goal, chances are you won't get that job at that company. It's likely you need to leave.

Choosing to leave is often the most difficult decision to make. We work and work on a relationship or situation, and eventually realize, we will never get what we want. That's a very hard pill to swallow. But if you're certain you won't get what you want, despite your efforts, move on.

Five Steps to Reaching Your Goals – Ask Yourself:

What do I want that I don't have now?

What do I need to give up in order to have what I want?

Have I made a request of the person/people who can help me get what I want?

Can the person/people I've asked for help assist me, and do they want to do so?

With persistence and consistency, can I get what I want from this situation, or is it time to move on?

Keys to reaching your goals: Determine what you want; tell someone who can help you get what you want; be consistent and persistent and be ready to make changes. To have something different, we have to do something different.

Shari Harley is the founder and President of Candid Culture, a Denver-based training firm that is bringing candor back to the workplace, making it easier to give feedback at work. Shari is the author of the business communication book *How to Say Anything to Anyone: A Guide to Building Business Relationships that Really Work*. She is a keynote speaker at conferences and does training throughout the U.S. Learn more about Shari Harley and Candid Culture's training programs at www.candidculture.com.


Student Branch News

The rejuvenated IEEE Student Branch at University of Michigan at Dearborn reports:

IEEE UMD Student Branch Faculty Counselor Dr. Alireza, Branch Chair Ali Hasan and Branch Vice Chair Chengxin Zhang met recently and they have the following updates from our side:


The plan is to have 2-3 industry speaker talks this fall on the UMD campus. Please let us know if you know any people who would give us a talk, either in person or through a Zoom meeting.


Chengxin Zhang
zhangcx@umich.edu


IEEE
INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
IEEE STUDENT BRANCH - UM-DEARBORN

IEEE

IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity.







UMD BRANCH

This student branch allows students to explore advanced technology, connect to peers and faculty, and meet industry professionals. It is a good opportunity to develop a record of accomplishments and capabilities beyond the norm.

ACTIVITIES

- Presentations with speakers from actual industrial
- Workshops or special projects (Matlab, Python, etc.)
- In-person/online seminars






HIRING


- Student Branch Secretary
 - Assistant, record keeper and historian
- Student Branch Treasurer (financial)
 - Maintain the appropriate financial accounts

CONTACT

- Branch counselor: Alireza Mohammadi (Assistant Professor)
 - amohmmad@umich.edu
- Branch Chair: Ali Hassan (Ph.D. Candidate)
 - alihssn@umich.edu
- Branch Vice Chair: Chengxin Zhang (Ph.D. Candidate)
 - zhangcx@umich.edu



If you are interested in participating in the activities of this IEEE student branch, please email us and we will contact you once the events have been scheduled.



Showing Up.

I recently stumbled upon this article which I had written back in 2011 when I was the SEM Section Chair and was struck the situation in this article still maintained a concern today! Had we made no progress in this area at all?

Then I wondered about our political system, and how many of our elected officials seem to believe that their 'office' should be theirs 'by right' and once elected, they just seem to feel that all they need to do is 'warm the seat' in which they sit. (We have some Geo-unit officers who don't show up for Section meetings....ever!)

A few months ago, I attended a lecture on training new employees for general employment and was startled when the first topic on the list was showing up for work, on time and ready to go. For anyone educated in the USA school system, where regular attendance is the norm, the thought that someone new to a job had to be reminded of this simple fact was a revelation.

Of course we need to be there. If we are not, everything after that is not going to happen. At least it is not going to happen to me, and if I keep that up, I won't be asked to come back. In fact, I may be forcefully asked NOT to come back!

Any organization cannot run effectively if some of the people who said they 'wanted to do the work' consistently fail to show up. It is no different with a volunteer organization like the IEEE. If someone volunteers to perform some function or lead some activity and they do not show up, the function or activity is in jeopardy.

Universities don't hire extra professors to cover some who decide that 'This is a nice day, so I'll just wander in the park today'. Industries don't hire multiple workers to do the same assembly line job assuming that one or more is not going to show up for work. The IEEE doesn't elect multiple officers or appoint multiple directors in the assumption that one or more will just decide that 'today I don't have time for that'. There are no extra hands to pick up the work and carry on when someone decides that their promise to be present and help is non-binding and that someone else must do that instead.

No-no one else will do it.

The project will fail.

The activity will stall.

The progress that might have been accomplished will crash and burn!

IEEE SEM ExCom Teleconferences:

Everyone is working toward the success of IEEE and of our Section. Your active and consistent participation is needed and necessary to the accomplishment of our goals. We need you to do your part. That can only happen when you 'show up'.

Each month, on the 2nd Thursday of the month at 6:30 PM the Section holds its monthly administrative teleconference. We made this a teleconference (or combined face-to-face and teleconference) so that it would be easy for people to attend. No one must drive to the meeting. No gas is used. No wear on the tires. Only time is required. Attendance at the ExCom meetings can be by either the Chair and/or any (or all) of the co-officers (Such as the Vice-Chair, Secretary or Treasurer). Note: Geo-units include all standing committees, affinity groups, student branches, technical chapters and HKN chapters. Individual members are also welcome to attend and lend their voices in an open, democratic process.

We also ask that each operating element; Section Officer or Director, Chapter or affiliate group send in a monthly written (e-mail) or fill the on-line file with a status update, so we know:

- Everything is OK, and
- You are planning and working toward success of your element, and
- If you need help or funding for special projects, we have a 'heads up'.
- Anything that might be drifting 'off into the weeds' can be caught and addressed.

The reports don't have to be long epistles, and many Chapters structure their reports so that the same basic report, with minor 'tweaks' each month serves to keep us all up to speed on their operation.

Our Section Secretary compiles all the reports together and publishes them before each teleconference so that all Section elements have a chance to catch up with everything that is going on in the Section before the teleconference begins. As a result, when we hold the teleconference, we don't have to "read" our reports into the record...they are already there. We also then have sufficient time to discuss any problems or concerns that need detailed explanation and or discussion and debate. If a vote is needed, we can do it then, and approve an action (such as a funding request) that same day.

All in all, the system is working quite well for those who show up. There lies the problem. Some elements do not show up. (By that I mean that a few Chapters have officers that never take the time required log into the internet site, or to dial the teleconference phone number, or write a short report and send it in.)

Don't misunderstand. Most of our Section Officers are regular contributors and help and assist at every turn. (In fact, some actively 'cover' for some other Officers who neglect their responsibilities on a regular basis.) The work of the Section is moving forward. We are making progress. How much more we could accomplish if most of the Officers participated in most meetings.

Face-2-Face ExCom Meetings:

Section Face-2-Face meetings are designed to allow us to 'network' with each other, enjoy each other's company, and discuss Section level issues of importance without having to deal with all the administrative 'stuff' at the same time. This schedule (Monthly administrative teleconferences and quarterly non-administrative face-2-face discussion meetings) is designed to address one of the long term complaints about Executive Committee (ExCom) meetings: "We never have time to talk about what is important." Well, now we do!

Our next Section ExCom meeting is 'Hybrid' (Both face-to-face and 'virtual') will be on September 12 with registration at 6PM, dinner provided, and the working business meeting to begin at 6:30PM.

Register at: <https://events.vtools.ieee.org/m/382834>

We look forward to seeing you there.

Kimball Williams
Section IMC
email: k.williams@ieee.org

ORG UNITS cheat sheet

Section Unit Name or Affinity Group or Chapter Name (Organizational Unit code is in parentheses)

Consultants Network Affinity Group: (CN40035)

Life Members: (LM40035)

Young Professionals: (YP40035)

Women in Engineering: (WE40035)

Chapter: 01 (CH04049) (SP01) Signal Processing Society,
(CAS04) Circuits and Systems Society and
(IT12) Information Theory Society

Chapter: 02 (CH04051) (VT06) Vehicular Technology Society

Chapter: 03 (CH04053) (AES10) Aerospace and Electronic Systems Society and
(COM19) Communications SocietyChapter: 04 (CH04050) (AP03) Antennas and Propagation Society,
(ED15) Electron Devices Society,
(MTT17) Microwave Theory and Techniques Society,

Chapter: 05 (CH04055) (C16) Computer Society

Chapter: 06 (CH04056) (GRS29) Geosciences and Remote Sensing Society

Chapter: 07 (CH04057) (PE31) Power Engineering Society,
(IA34) Industrial Applications Society

Chapter: 08 (CH04088) (EMC27) Electromagnetic Compatibility Society

Chapter: 09 (CH04087) (IE13) Industrial Electronics Society,
(PEL35) Power Electronics Society

Chapter: 10 (CH04142) (TEM14) Technology and Engineering Management Society

Chapter: 11 (CH04099) (EMB18) Engineering in Medicine & Biology

Chapter: 12 (CH04103) (CS23) Control Systems Society

Chapter: 13 (CH04113) (E25) Education Society

Chapter: 14 (CH04115) (RA24) Robotics And Automation Society

Chapter: 15 (CH04144) (NPS05) Nuclear Plasma Sciences Society

Chapter: 16 (CH04125) (CIS11) Computational Intelligence Society,
(SMC28) Systems, Man and Cybernetics Society

Chapter: 17 (CH04128) (NANO42) Nanotechnology Council

Chapter: 18 (CH04162) (MAG33) Magnetics Society

Section Unit Name or Affinity Group or Chapter Name (Organizational Unit code is in parentheses)

University Of Detroit-Mercy: (STB00531)

Michigan State University: (STB01111)

University Of Michigan-Ann Arbor: (STB01121)

Wayne State University: (STB02251)

Lawrence Technological University: (STB03921)

Oakland University: (STB06741)

Eastern Michigan University: (STB11091)

University of Michigan-Dearborn: (STB94911)

Use the Geo-unit 'Code' for faster access in the vTools system applications.

HKN Code	HKN Name (Student IEEE Honor Society)
HKN029	University of Michigan-Ann Arbor, Beta Epsilon
HKN042	University of Detroit-Mercy, Beta Sigma
HKN054	Michigan State University, Gamma Zeta
HKN073	Wayne State University, Delta Alpha
HKN163	University of Michigan-Dearborn, Theta Tau
HKN164	Lawrence Institute of Technology, Theta Upsilon
HKN190	Oakland University, Iota Chi
HKN244	Southeastern Michigan Alumni

Why do we publish this? Well, this is most useful when searching the vTools page for entering L31s or creating new events or searching for existing events!

[NOTE – the Student Branch Chapters of several Societies has been eliminated, due to several years of non-activity as well as there is no one left, who started it years ago!]

Curated & Maintained By

Sharan Kalwani,

Chair, IEEE Southeastern Michigan Section (2022-2024)

Editor, Wavelengths (Serving you as an active newsletter contributor since 2018)

Enthusiastic IEEE volunteer since 2011

Use the Geo-unit 'Code' for faster access in the vTools system applications.

Activities & 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. **NOTE: The IEEE SE Michigan section website is located at <http://r4.ieee.org/sem/>**

SEM Wavelengths:

<https://r4.ieee.org/sem/about-sem/sem-history/wavelengths-magazine-archive/>

SEM Calendar of events:

<https://r4.ieee.org/sem/sem-calendar/>

Select “SEM Calendar” button in the top row of the website. 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 Collabratec Workspace:

<https://ieee-collabratec.ieee.org/app/workspaces/5979/IEEE-Southeastern-Michigan-Section/activities>

An IEEE supported space for online chat, discussions, connecting with other global IEEE entities, besides our local Michigan folks.

vTools Meetings:

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

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

Other Happenings

Here are some of the non-IEEE functions that may be of interest to you or someone you know. 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. **NOTE: Copy the URL and paste it into your browser address bar.**

These websites were checked in June 2022 and found viable.

Send details to: wavelengths@ieee-sem.org OR letters@ieee-sem.org

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Michigan Institute for Plasma Science and Engineering: Seminars for the academic year:

<https://mipse.umich.edu/seminars.php>

Model RC Aircraft

<http://www.skymasters.org>

Model Rocketry

<https://www.nar.org/find-a-local-club/nar-club-locator/>

Astronomy

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

Experimental Aircraft Association

<https://www.eaa.org/en/eea/eea-chapters/find-an-eea-chapter>

Robots

<https://www.robofest.net/index.php/about/contact-us>

Science Fiction Conventions

<https://2022.penguicon.org/>

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

Mad Science

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

ESD PE Review Class

<https://www.esd.org/programs/pe/>

Maker Faire:

<https://swm.makerfaire.com/>

It appears that the SouthWest Michigan Maker Faire was a casualty of the Global Pandemic, as were many of our friends and several organizations.

However, we retain this link for anyone wishing to make contact and consider pumping life back into what was a wonderful experience.

Executive Committee

The Executive Committee is the primary coordination unit for Southeastern Michigan (SEM) IEEE operations. The basic organization chart below shows the 2023 arrangement of communications links designed to provide inter-unit coordination and collaboration.

The SEM Executive Committee meets in a teleconference each month on usually on a Thursday at 6:30 pm. The specific meeting days, times, phone or WebEx numbers and log in codes are published on the IEEE SEM Website calendar: <http://r4.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 **Christopher Johnson**, the section secretary at secretary@ieee-sem.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.

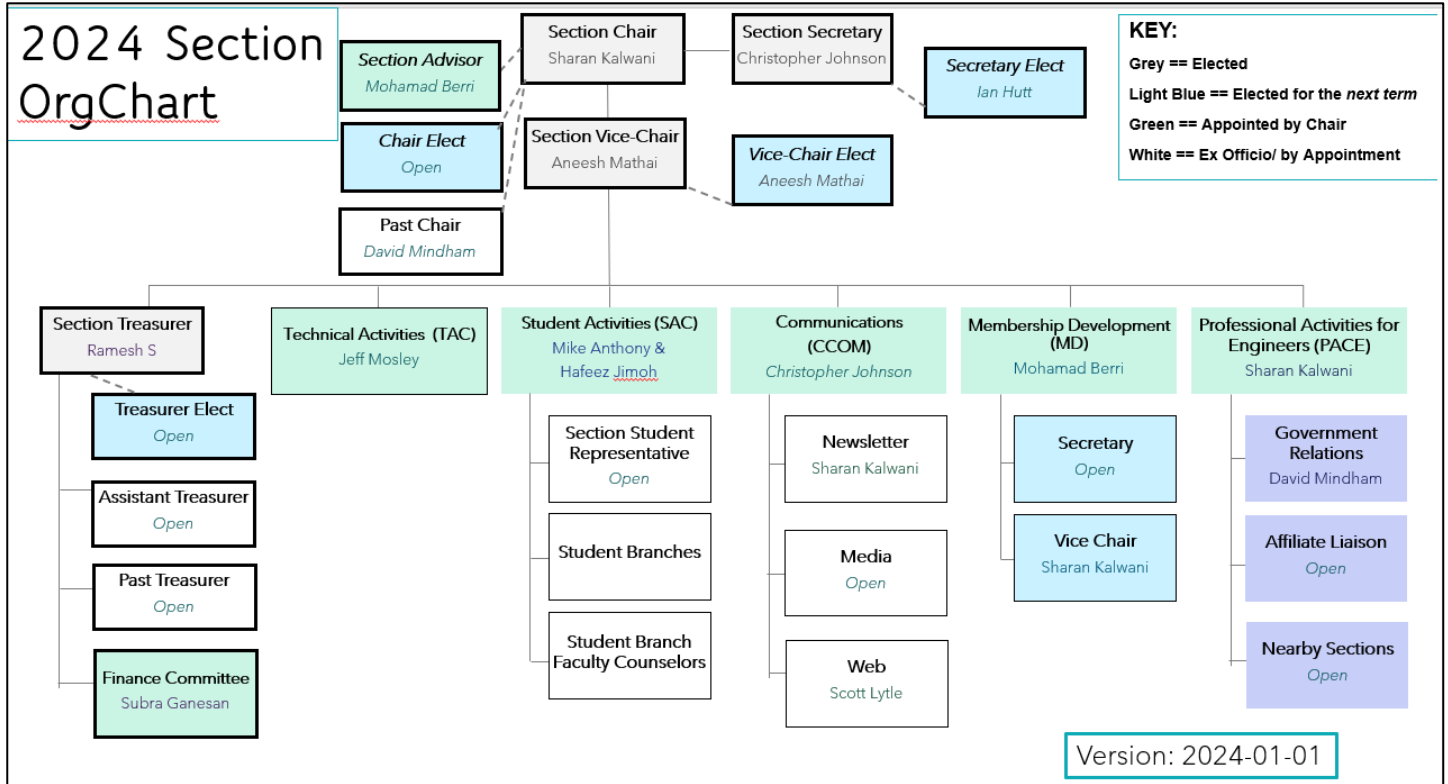
More detailed information on meetings may be found through the IEEE SEM Website: <http://r4.ieee.org/sem/> and clicking on the **SEM meetings list** button near the bottom of the left-hand banner.

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

Christopher Johnson (Secretary)

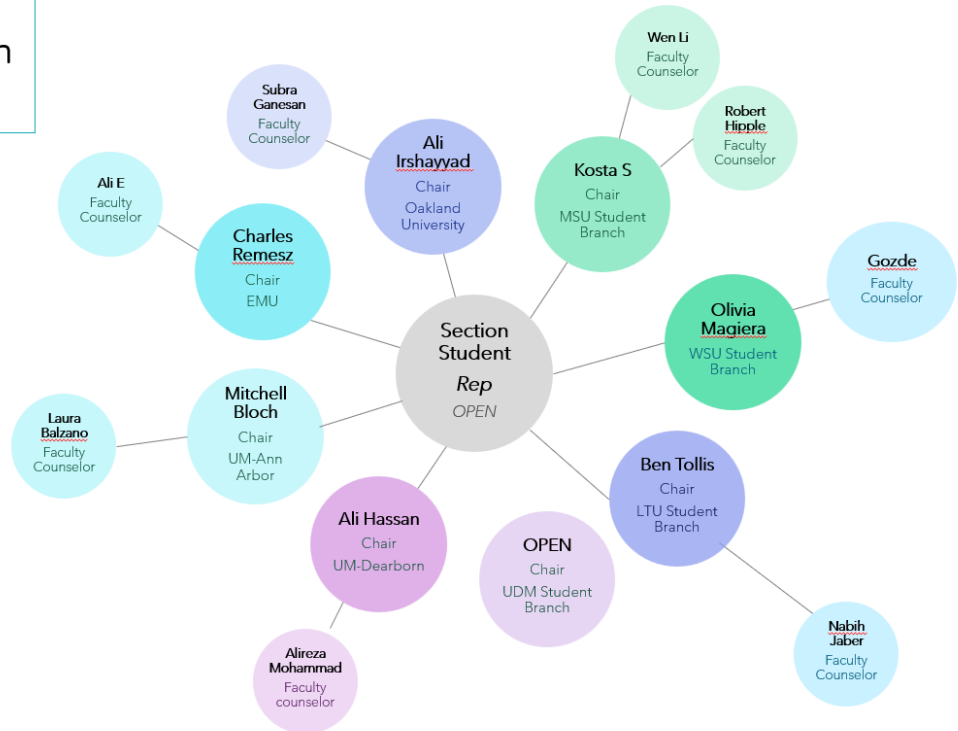
Email: secretary@ieee-sem.org

If you wish to download the complete SEM Organization Chart, in PDF format, it will be made available soon at <http://r4.ieee.org/sem/>. In the meantime, you may use the diagram below (recently refreshed!)



2024 IEEE Southeastern Michigan Student Branches

Organization chart



ExCom Meeting Schedule

NOTE: All SEM members are invited to attend ALL ExCom (Executive Committee) meetings:

Below is the 2024 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 each scheduled ExCom meeting. Please mark your calendars for the 2024 meetings. Or link your personal calendar to the SEM Web calendar.

Section Administrative Committee (ExCom) Meeting Schedule for 2024: (clickable links)

Note: All IEEE Members are welcome at any IEEE meeting, at any time but please register so we can be sure to accommodate you. This month's meeting is highlighted in **Bold**.

<i>ExCom Meeting (all clickable links)</i>	<i>Date & Start Time, Duration</i>
Section ExCom Monthly Meeting (Hybrid) For SEPTEMBER	12 Sep 6:30 PM, 2 hours
Section ExCom Monthly Meeting (virtual) For OCTOBER	10 Oct 6:30 PM, 1 hour
Section ExCom Monthly Meeting (virtual) For NOVEMBER	14 Nov 6:30 PM, 1 hour
Section ExCom Monthly Meeting (In Person) For DECEMBER	12 Dec 6:30 PM, 2 hours

Christopher Johnson (Secretary)

Email: secretary@ieee-sem.org

Section Administrative Committee (ExCom) Meeting Schedule for 2024: (screen snapshot)

SEARCH EVENTS

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Organizational Unit ?

Date Range ?

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Showing 6 of 6 upcoming events, based on search criteria.

Title	Date	Host	Location	Reported On	Options
<input checked="" type="checkbox"/> SEM Section ExCom Monthly Meeting (virtual) For JULY 2024	11 Jul 2024 06:30 PM	R40035			View Manage
<input checked="" type="checkbox"/> SEM Section ExCom Monthly Meeting (virtual) For AUGUST 2024	08 Aug 2024 06:30 PM	R40035			View Manage
<input checked="" type="checkbox"/> SEM Section ExCom Monthly Meeting (In Person) For SEPTEMBER 2024	12 Sep 2024 06:30 PM	R40035	Southfield, Michigan		View Manage
<input checked="" type="checkbox"/> SEM Section ExCom Monthly Meeting (virtual) For OCTOBER 2024	10 Oct 2024 06:30 PM	R40035			View Manage
<input checked="" type="checkbox"/> SEM Section ExCom Monthly Meeting (virtual) For NOVEMBER 2024	14 Nov 2024 06:30 PM	R40035			View Manage
<input checked="" type="checkbox"/> SEM Section ExCom Monthly Meeting (In Person) For DECEMBER 2024	12 Dec 2024 06:30 PM	R40035	Southfield, Michigan		View Manage

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Advanced Search Clear Search

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Date Range ?

section excom

R40035 - Southeastern Michigan Section

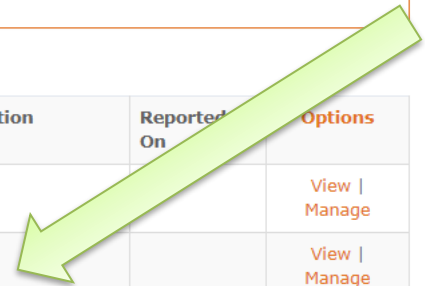
Upcoming

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Title	Date	Host	Location	Reported On	Options
<input checked="" type="checkbox"/> SEM Section ExCom Monthly Meeting (virtual) For JULY 2024	11 Jul 2024 06:30 PM	R40035			View Manage
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<input checked="" type="checkbox"/> SEM Section ExCom Monthly Meeting (In Person) For DECEMBER 2024	12 Dec 2024 06:30 PM	R40035	Southfield, Michigan		View Manage



Editorial Corner

Previous editions in this series may be found on the IEEE SEM website at: <http://r4.ieee.org/sem/>. Click on the “Wavelengths” button in the top row of selections.

Comments and suggestions may be sent to the editorial team at wavelengths@ieee-sem.org

OR

sharan.kalwani@ieee.org

nilesh.dudhaia@ieee.org

k.williams@ieee.org

cqjohnson@ieee.org

akio@emcsociety.org

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.

We always encourage all chapters and student branches to share news of activities (both past and future) in their arenas. Please feel free to share any and all information so your peers, colleagues can hear about all the good work you do.

Quote:

“If a tree falls in a forest and no one hears it, how do you know it actually fell??”

So, publicize your work, one never knows when it can pay off!

Editors:

We are always looking for members interested in helping to edit the newsletter. The process is always more fun with more people to share the duties. Having more participants and contributors also helps us keep the newsletter interesting.

Join the Team:

If you feel you might like to join the team, or would like to train with us, please contact one of us at:

wavelengths@ieee-sem.org

Sharan Kalwani,
Chair, IEEE SE Michigan Education Society Chapter
Vice-Chair, IEEE SE Michigan Computer Society Chapter
Co-Editor, Wavelengths,
2018~2019~2020~2021~2022~2023~2024

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	New Year Officers	Officer's Welcome	The Year Ahead	
Feb	Cons	2		MSU	Science Fair Judges	National Engrs Wk.	Surviving Winter	
Mar		3	13	EMU	Elections - Prep			
Apr		4		U/M-D		ESD Gold Awards	Chapter Focus	
May	Life	5	14			Science Fair		
Jun		6					Leadership Skills	
Jul		7	15				Students Issues	
Aug	WIE	8			Nominations Call		Womens Issues	
Sep		9	16	LTU	Ballots	Engineers Day?	Professional Skills	
Oct		10		U/M-AA	Elections!	IEEE Day		
Nov	YP	11	17	WSU	Election Results	New Fellows		
Dec		12		U/D-M	IEEE-Com Apmts.		Happy Holidays	R4 Nom

Wavelengths Annual Publication Plan for Personal Profiles

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



Web & Social Sites

Southeastern Michigan Section Website

<http://r4.ieee.org/sem/>

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

Section Website Event Calendar

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

SEM Facebook Page

(Select the “

<https://www.facebook.com/groups/ieeesemich>

SEM LinkedIn Page

(Select the “

<https://www.linkedin.com/groups/1766687/>

SEM Twitter Account (new)

(Select the “

<https://www.twitter.com/ieeesemich>

SEM Collabratec Community Page

<https://iee-collabratec.ieee.org/app/section/R40035/IEEE-Southeastern-Michigan-Section>

SEM Collabratec Workspace Page

<https://iee-collabratec.ieee.org/app/workspaces/5979/IEEE-Southeastern-Michigan-Section/activities>

SEM Instagram (new)

<https://www.instagram.com/ieeesemich/>

SEM Officers:

For a complete listing of all - Section - Standing Committee - Affinity Group - Chapter and Student Branch SEM Officers Roster on the web page (top banner)

Section Officers

Section Chair

Sharan Kalwani

Section Vice-Chair

Aneesh Mathai

Section Secretary

Christopher Johnson

Section Treasurer

Ramesh Sethu

Standing Committees:

Section Adviser

Mohamad Berri

Wavelengths Editor

Sharan Kalwani

Educational Committee

Anthony Will (Chair)

Finance Committee

Subra Ganesan (Chair)

Membership Development

Mohamad Berri (Chair)

Awards & Nominations

Jerry Song (Chair)

PACE

Sharan Kalwani (Chair)

Student Activities

Michael Anthony & Hafeez Jimoh (Co-Chairs)

Student Mentors

OPEN

SECTION Student Rep

OPEN

Technical Activities

Jeffrey Mosley

Information Management



IEEE Southeastern Michigan

Visit Us on the Web at:

<http://r4.ieee.org/sem>



Advertising Rates

SEM Website & Newsletter

Leadership Meetings

SEM Executive Committee Monthly Teleconferences:

- 2nd Thursday of Each Month @ 6:30 PM
- Check the Section Web Calendar at:
<http://r4.ieee.org/sem/sem-calendar/>
(Select the “SEM Calendar” button in the top row.)

OR

SEM Executive Committee Meetings:

- Find the location, and Registration at:
<http://bit.ly/sem-ieee>

SEM Standing Committee Meetings:

SEM Affinity Group Meetings:

SEM Technical Society/Chapter Meetings:

SEM University Student Branch Meetings:

- Meeting schedules are announced on SEM Calendar
<http://r4.ieee.org/sem/>
(Select the “SEM Calendar” button in the top row.)

- Registration for all at:

<http://bit.ly/sem-upcoming>