

Wavelengths



Volume 63 – Issue 10

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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
Volunteering at IROS (Intelligent Robots)	2023-10-01	09:00 AM
IEEE SEM YP AFFINITY GROUP MONTHLY	2023-10-01	10:00 AM
EV Charging in the Transition to Electrified	2023-10-03	05:00 PM
AI and Machine Learning with Scratch	2023-10-07	01:00 PM
Optimization using Quantum Computing	2023-10-10	06:00 PM
Ch8: AdCom Teleconference	2023-10-12	11:00 AM
SEM Section ExCom Monthly Meeting (virtual)	2023-10-12	06:30 PM
Introduction to Embedded Systems (parts 1 & 2)	2023-10-14	0:30 PM
How to Rock Your First 90 Days In a Job	2023-10-17	07:30 PM
Section Fall Conference 2023	2023-10-18	03:00 PM
IEEE SEM Chapter 1 Technical Presentation	2023-10-25	07:30 PM
21st Embedded Systems Workshop	2023-10-28	08:30 AM

Chair's Column

The month of Shocktober 😊 –

Despite thinking that the recent month of September was hectic and represented the classical sine wave of rising activity, October is looking to raise the plateau value to an even higher potential. We have a ton of activities to look forward. I therefore expect to see as many of you as possible at these upcoming events:

- 1) **Section Fall Conference** which is taking place at the Kellogg Center near door to the Michigan State University in East Lansing on October 18th. This time around we have a veritable galaxy of speakers. Check out their vtools event site at: <https://events.vtools.ieee.org/m/364728>. Elsewhere in this issue is a brief 1 pager on it.
- 2) Also the Computer Society Technical Chapter is doing the 21st edition of their **Embedded Systems Workshop (ESW2023)**. This year it will be in person and scheduled for October 28th. Look for their event (<https://events.vtools.ieee.org/m/371793>) or on the section website or search for it in the IEEE global events.vtools.ieee.org site with the keyword ESW/
- 3) The major event coming up soon is the **Section's 60th Anniversary**. (<https://events.vtools.ieee.org/m/361569>) Yes, it has been that long, but distinguished. The event will be held on November 4th and we have a very well laid program for you and your spouse and family members to join us. We have an Art Institute tour, a lively cocktail reception, a planetarium cosmos viewing event, a distinguished speaker from IEEE-HQ and a sumptuous dinner – all planned in a single afternoon/evening PLUS several event mementos for the occasion. Look for the flyer and announcements in all the media we have access to, as well as this newsletter, website, Collabratec, social media channels and vtools.
- 4) We continue to work ridiculously hard in building industry engagements (more than any other Midwest section!). On October 10th, we have a returning speaker (who is very much part of the nascent/growing new computing ecosystem), who is going to share with us how Quantum computers are being used to solve difficult optimization problems.
- 5) Industry equally, very much values the way we shape and nurture talent that is desperately needed. To this end we are going to conduct for the 3rd year in a row, *an introduction to embedded systems*, aimed squarely at students, to get a taste of this infinitely and hugely employable field. Look for the flyer in this issue.
- 6) Last but not least, even though many in the academic world seem to be only marginally aware of it, we massively support their efforts at all levels. We are happy to share information on the upcoming Oakland University Research Expo, a flyer appears in this issue.

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

We continue to celebrate all of our members who recently got elevated to senior status. Look for their brief profiles elsewhere in this edition as well as all online forums we participate in. 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.

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.



Sharan Kalwani

Via email: chair@ieee-sem.org

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



Technical Activities Report

2023 IEEE SE Michigan Section Geo-unit Status (Till Sep 27th)

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	4	0	Consultants Network	0	4
LIFE	0	0	0	0	5	0	Life Members	4	5
WIE	25	15	1	8	3	0	Women In Engineering	0	12
YP	0	0	0	3	0	0	Young Professionals	0	3
1	6	1	1	2	0	0	Circuits & Systems, Signal Proc., Info Th.	0	3
2	23	6	7	0	0	0	Vehicular Technology	0	7
3	20	6	2	0	0	0	Aerospace & Elec. Sys., Communications	0	2
4	33	21	4	0	0	0	Trident (Ant, Elect Dev., uWave, Photo)	0	4
5	28	7	20	7	1	0	Computers	0	28
6	107	45	3	0	0	0	Geoscience & Remote Sensing	0	3
7	153	45	5	4	1	0	Power Engineering, Industrial App.	0	10
8	55	27	10	9	4	0	Electromagnetic Compatibility (EMC)	2	23
9	99	43	1	0	0	0	Power Electronics, Industrial Electronics	0	1
10	5	0	2	2	0	0	Engineering Management	0	4
11	0	0	0	1	0	0	Eng. in Medicine & Biology	0	1
12	18	2	4	1	0	0	Control Systems	0	5
13	19	1	32	8	0	0	Education	1	40
14	34	30	2	0	1	1	Robotics & Automation	0	4
15	33	21	4	0	0	0	Nuclear Plasma Science Society	1	4
16	0	0	0	1	0	0	Computational Intelligence / Sys.Man.Cyber.	0	1
17	24	3	2	0	0	0	Nano Technology Council	0	2
SEM	50	17	6	47	2	0	SEM (Section)	3	55
	728	287	106	93	21	1	NOTE: Highlight Green = Active	11	221
		39%					NOTE: Highlight clear = Concern		

As chairman of the Technical Activities Committee (TAcOm) for over ten years, I've seen a lot of highly competent leadership in our GEO-units (i.e., technical chapters and affinity groups). We in the Section have seen ebb and flows related to our technical chapters and units. I have been impressed with the Section progress in sustaining our groups and making progress with the Fall and Spring conferences.

Your TAcOm is committed to monitoring, encouraging, and supporting increased technical meeting interchange within our Section. Our TAcOm team is small and we appreciate all the hard work and responsiveness from our GEO unit leaders. We in the SEM Section need

more volunteers to continue on this current pace and to increase our provision of relevant technical content to our membership.

Efforts to combine and co-host technical meetings are going well. We still need more leadership volunteerism to keep the momentum going. Please endeavor to assist our Section EXcom and Awards and Nominations committee during the current officer nomination and election season. Please provide comments and recommendations to determine appropriate and relevant content for our members to become knowledgeable of pertaining to IEEE technical areas of interest. Please encourage your colleges and other science, engineering,

and technical students and professionals to join in our cause to promote expanding and promoting the SEM Section.

In the near future the Section plans to survey our GEO unit leaders and standing committees in order to identify new ways to provide relevant support. We also plan to provide seminars focused on career development to include content supporting career transitions for our membership. at large.

Lastly, if you are interested in directly supporting these efforts please contact myself or the EXcom directly. We'd love to get your input to improve our IEEE awarded Section.

Take care,

Jeff Mosley
Chair, Technical Activities Committee (TAcOm)
jvmosley@ieee.org

- ✓ *Enabling Scalable Supply Chain of Diamonds w/ Microwave Plasma*: Dr. Sergey Baryshev
- ✓ *Time and Frequency Synchronization in Antenna Array Systems*: Jason Merlo
- ✓ *Role of HPC in Nano to Mega-Scale Engineering*: Sharan Kalwani
- ✓ *Novel Research Topics in Transistor Modeling*: Nicholas Miller
- ✓ *Conductive Diamond Electrodes for Chemical Measurements*: James Siegenthaler

The event registration is already active and here is the link: <https://events.vtools.ieee.org/m/364728> Please register today. We need your active support and participation.

Feel free to reach out to me for any comments, questions at conference@ieee-sem.org.

Thank you for your support and I look forward to meeting with you all.



Keyur Patel
On Behalf of: Section Conference Team

Fall Conference



Dear IEEE members:

While we are reading Wavelength articles and watching tree leaves changing their color, it is time for the IEEE Southeastern Michigan Fall Conference in person on October 18th, 2023, at the Kellogg Hotel & Conference Center in East Lansing, Michigan, just around the Michigan State University (MSU) campus. Your contribution and active participation made Spring 2023 at the Lawrence Technological University (LTU) so successful that now, our bar have gone higher!

The conference will feature technical track presentations, a section activity showcase, an awards event, a dinner with light beverages, and our section technical chapters on active collaboration, and of course, social networking. The conference theme is "Mega and Nano Trend Challenges".

Here is a quick early glimpse of the topics and corresponding expert speakers.

- ✓ *Welcome Note*: Dr. Leo Kempel, Dean - MSU
- ✓ *Role of IEEE in Your world*: Sharan Kalwani, Chair – IEEE Southeastern Michigan Section

This Month in October

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

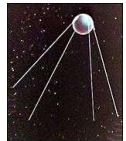
October 1, 1908 - Henry Ford's Model T, a "universal car" designed for the masses, went on sale for the first time.



October 3, 1884 – IEEE Day, the first Tuesday of October, when a small group of individuals in the electrical professions met in New York, USA. They formed a new organization to support professionals in their nascent field and to aid them in their efforts to apply innovation for the betterment of humanity—the American Institute of Electrical Engineers, or AIEE for short. That October, the AIEE held its first technical meeting in Philadelphia, PA, USA. Many early leaders, such as founding President Norvin Green of Western Union, came from telegraphy. See also <https://www.ieee.org/about/ieee-history.html>

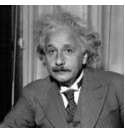
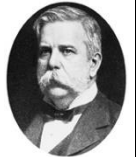


October 4, 1957 - The Space Age began as the Russians launched the first satellite into orbit. Sputnik I weighed just 184 lbs. and transmitted a beeping radio signal for 21 days. The remarkable accomplishment by Soviet Russia sent a shockwave through the American political leadership resulting in U.S. efforts to be the first on the moon.



October 5, 1882 - Birthday - "Father of the Space Age" Robert Goddard (1882-1945) was born in Worcester, Massachusetts. During his lifetime he was ridiculed by the public and the press over his idea of constructing a space flight machine. In 1926, he launched the world's first liquid-fueled rocket on a farm near Auburn, Mass. In 1935, his liquid-fueled rocket surpassed the speed of sound. Other developments included a steering apparatus for rocket machines, staged rockets to reach high altitudes, rocket fuel pumps, and a self-cooling rocket motor.

October 6, 1846 - Birthday - Engineer and inventor George Westinghouse (1846-1914) was born in Central Bridge, New York. He developed air brakes for trains and was later responsible for the adoption of alternating current (AC) systems for electric power transmission in the U.S. He was also the first employer to give his employees paid vacations.



October 11, 1939 - Albert Einstein warned President Franklin D. Roosevelt that his theories could lead to Nazi Germany's development of an atomic bomb. Einstein suggested the U.S. develop its own bomb. This resulted in the top secret "Manhattan Project."

October 13, 1884 - Greenwich was established as the universal time from which standard times throughout the world are calculated.



October 21, 1879 - Thomas Edison successfully tested an electric incandescent lamp with a carbonized filament at his laboratory in Menlo Park, New Jersey, keeping it lit for over 13 hours.

October 24, 1861 - The first transcontinental telegram in America was sent from San Francisco to Washington, addressed to President Abraham Lincoln from the Chief Justice of California.

October 30, 1938 - The War of the Worlds radio broadcast panicked millions of Americans. Actor Orson Welles and the Mercury Players dramatized the story by H.G. Wells depicting a Martian invasion of New Jersey. Their script utilized simulated radio news bulletins which many listeners thought were real.

This continues the yearlong feature of interesting **engineering** events or milestones that occurred in a specific month. Readers are invited to share their views and opinions (or suggestions) at the accompanying link. Submissions can also be made using direct email to the editors at: wavelengths@ieee-sem.org.

Sharan Kalwani

2022-2023 Chair, Southeastern Michigan Section, Passionate Engineering History Buff/Aficionado

Time to Vote

October is our month to participate in the democratic process of electing our leaders, in at least two levels:

- The Section Executive Committee and,
- Our Technical Chapters, and Affinity Groups.

Ballots are created and will be emailed to all our Section members (who have not 'opted out of local activities'). *Check your IEEE personal profile on the main IEEE website to be sure you have not been so foolish as to do that.*

Executive Committee:

For the ExCom this year we are electing two positions,

- Secretary Elect, and
- Treasurer Elect.

Hopefully some of our members have entered nominations of viable candidates for those positions during the last month (September). If not, there is always the option of a 'write-in' candidate for any elected position. Why not you?

Why does my mind jump immediately to Clint Eastwood as 'Dirty Harry' saying "Do you feel lucky?" *Perhaps I watch too many old movies.*

Geo-Units:

For our Geo-units (Technical Chapters and Affinity Groups) all the positions are up for re-election:

- Chair
- Vice Chair
- Secretary
- Treasurer

Each of these has a [job description](#) found in the SEM Website at:

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

..or on the IEEE primary website at the:
IEEE Center for Leadership Excellence (CLE)
<https://ieee-elearning.org/CLE/>

So, why should you want to become an elected officer at any level in our Section or a Geo-unit?

Why become an Officer?

The answer to that question is often an hour-long presentation just to lightly point out the advantages of any experience as part of an organization leading the way to a worthwhile goal. I shall mention only two:

- Experience a part of a leadership team and,
- In depth understanding of a particular role.

Many of us learn some aspects of teamwork in sports or other group activities. Leading a Geo-unit is the equivalent of 'grad school' in leadership. Done well, it can enhance your capabilities to lead in many other aspects of your life.

Specific roles: Chair / Vice-Chair / Secretary / Treasurer each present opportunities for learning skills that are difficult to acquire in any other way. The experience of working through difficulties is the only way to really understand 'how the game is played', to use a sports metaphor.

In many other places I have likened learning leadership skills through direct experience to learning a sport. No matter how much you read and study, you will never REALLY know what the actual challenges are for ice skating until you put on a pair of skates and step out on the ice where the coefficient of friction falls to almost zero! There is no substitute for experience.

What is my Geo-unit?

Our Section Chair, and Chief editor for the Wavelengths, Sharan Kalwani created what he calls the:

ORG UNITS cheat sheet on page 28. There you will find a complete, detailed listing of all the Geo-units in our Section, along with the Technical Societies they represent. (Note we have several Joint Chapter that are allied with more than one Society, so read carefully.)

Each of the election ballots for a Chapter or Affinity Group will list the organization(s) in the title for the ballot so the one you want should be easy to find.

Election Schedule:

We are following a plan of action with specific dates and goals:

- ✓ Nominations September
- ✓ Ballots out by October 8 – Voting ends October 29th.
- ✓ Preliminary results to ExCom on November 9th.
- ✓ Final Results to ExCom on December 14th.

NOTE: ALL ExCom meetings are OPEN to ALL IEEE members. Watch for the announcements in the Wavelengths and in the SEM Calendar on the SEM Website. **YOU are invited!**

Section History

IEEE Section 60th Anniversary: A Historical Perspective

Original By Don Bramlett, IEEE Southeastern Michigan Section Advisor,

Updated by Sharan Kalwani, IEEE Southeastern Michigan Chair (2021-2023)

This article originally appeared in the January 1996 issue of Wavelengths newsletter and has been suitably updated for the October 2023 edition.

January 28, 2023 is the 112th anniversary of the founding of the Michigan section of AIEE, the forerunner of the Southeastern Michigan Section of IEEE (IEEE/SEM).

The section has roots stemming from several founding professional organizations. The chronology of the section follows from AB Initio, so that 2023 is **also** the:

- 139th anniversary of the founding of AIEE (the first organization in the chronology which led to IEEE),
- 112th anniversary of the founding of IRE,
- 97th anniversary of the founding of the Detroit section of IRE,
- 77th anniversary of the founding of the Vehicular Radio Group of IRE,
- 60th anniversary of the merger of AIEE and IRE into IEEE, and
- 60th anniversary of the formation of the IEEE/SEM Section

The Institute of Electrical and Electronics Engineers, Inc. (IEEE) origins began with the founding of the [American Institute of Electrical Engineers \(AIEE\)](#) in New York City in 1884 by a group of electrical inventors and entrepreneurs. At the time, telegraph lines were strung across the land and under the sea to link peoples and nations; the telephone, less than a decade old, was already revolutionizing the patterns of communications. Thomas Edison's electric light invented only five years earlier, was being installed in just about every industrial, commercial, and residential application. Three students earned bachelor degrees in electrical engineering from the Physics Department at the [University of Michigan](#) in 1890. The degrees were the first such degrees awarded in the state of Michigan. By 1895, the number of students studying electrical engineering, primarily in the area of electrical machinery, had grown to the extent that the [Department of Electrical Engineering](#) was founded at the University of Michigan.

The Michigan Section of AIEE was founded on January 29, 1911. Electrical engineers in the section practiced in the power areas of generators, transformers, switchgear, cables, and transmission lines. Utility engineers, primarily from [Detroit Edison](#), [Consumers Power](#), and [Michigan Bell Telephone](#) were heavily represented in the membership and leadership.

The emergence of the dramatic new technology of radio, with its equally profound consequences for mankind, led to the founding of the [Institute of Radio Engineers \(IRE\)](#) in 1912. IRE became the lead organization for technology which evolved into electronics, with the resulting invention of television, radar, control systems, and computers.

The use of two-way radios was first demonstrated in [Detroit police](#) cars in 1925. The following year on May 22, 1926, the Detroit Section of IRE was founded. Radio and electronics engineers in the Detroit Section practiced in the areas of telegraphy, radio, electron theory, radio astronomy, and electron microscopy. There was also heavy representation by members of academia in the Detroit Section of IRE.

The diverse technical fields in both electrical engineering and electronics engineering resulted in both AIEE and IRE forming specialized technical groups. One of these technical groups was the Vehicular Radio Group, founded in 1946. This group is the predecessor of the [IEEE Vehicular Technology Society](#).

The Detroit Sections of IRE and AIEE were recognized by the national organizations as being among the more active sections. Each section had hosted several national conventions and many smaller technical conferences in Detroit. Several local officers went on to leadership roles at the national levels in AIEE and IRE.

The field of electronics engineering grew, and by the end of World War II, equaled power and communication engineering in scope and membership. Increasingly, the common interests of electrical and electronics engineers drew them closer together. On the national level, as well as the local section level, AIEE and IRE co-sponsored more and more joint technical programs. Talks on a merger of the two organizations began and the merger of the two international

organizations was formulated and agreed to at the 1961 AIEE Fall General Meeting, held here in Detroit (about Detroit , city website). The AIEE and IRE national organizations merged in 1963 to form a new technical engineering society, the Institute of Electrical and Electronic Engineers (IEEE) .

Following the 1961 AIEE Fall General Meeting, the officers of the Detroit Sections of AIEE and IRE held several discussions to iron out many potential problems in order to make the new union a success. The two sections merged to form the Southeastern Michigan Section of the IEEE (IEEE/SEM) on June 1, 1963. The first year of the merger was a time of obvious change, and there was a great deal of concern about the manner in which the two sections would come together. Despite the somewhat diverse interests of the two sections, the transition was carried out in a spirit of cooperation, and concerns proved to be unfounded.

The technical groups in the two local sections were combined, resulting in eight technical groups within IEEE/SEM. Five of the groups came from the former IRE and three from the former AIEE. The technical groups were:

- Computer Group,
- Aerospace and Electronics Group,
- Power Group,
- Industry and General Applications Group,
- Communications Technology Group,
- Vehicular Technology Group,
- Automatic Control and Information Theory Group, and
- Trident (AP, ED, MTT) Group

The incoming AIEE section chair became the first IEEE/SEM chair. The incoming IRE section chair became the first IEEE/SEM vice chair and assumed the chair position the following year. An executive committee was formed which consisted of four officers, eight administrative members, and the junior past chair. An advisory committee was formed; it included the chair and vice chair of all the active committees and technical groups and the executive committee. There were sixty-eight members on the advisory committee. There were over 200 active committee members out of a section membership of 2,200 during the first year. A meeting was held in early 1963 to plan the year's activities. During the first year of the merger, six section meeting and forty-five technical group meetings were held. The IEEE/SEM Education Committee conducted several tutorial symposia in Detroit and [Jackson](#) that were successful and produced income for the section.

IRE published Crosstalk, a monthly newsletter at the time of the merger. The newsletter was in the form of a magazine. AIEE published a monthly announcement called the Michigan Section Newsletter. It was felt that a professional looking publication was desirable, and a magazine type publication called the Michigan Section IEEE News was initiated. The cost of the newsletter was subsidized by the income from symposia conducted by the IEEE/SEM Education Committee and income from advertisers listed in the business directory of the publication. Some of the original advertisers were [Engel-Klaes Co.](#), [Osborne Transformer Corporation](#), [George R. Peters Associates](#) , [George R. Peters Associates](#) , [Myron Zucker Inc.](#) , and The Satullo Company. IEEE/SEM held a contest in 1970 for the purpose of renaming the newsletter. Wavelengths was selected as the winning entry and the January 1971 issue was the first issue published under the new name.

The history of the IEEE/SEM since 1963 has been one of demonstrated activism and volunteerism on both the national and local levels of IEEE. Numerous technical conferences have been hosted and co-sponsored, including:

- 1966 First National Conference on Automobile Electrical and Electronic Equipment
- 1968 International Power Generation Conference
- 1969 Industry and General Applications Group Annual Meeting
- 1970 Annual Vehicular Technology Conference
- 1974 The World Energy Conference
- 1974 [Convergence](#) (also held every two years in Detroit following the original conference)
- 1991 [Industry Applications Society](#) Annual Meeting
- 1991 VNIS Conference

The activism of IEEE/SEM has extended to involvement in the broader engineering, professional and scientific community. Past issues of Wavelengths illustrate the involvement of IEEE/SEM and its members in programs with the [Engineering Society of Detroit \(ESD\)](#), and especially the [ESD Affiliate Council](#), the [Michigan Society of Professional Engineers](#), [National Engineers Week](#), and the [Science and Engineering Fair of Metropolitan Detroit](#). IEEE/SEM has also been creative in trying to service the needs of its members at various times throughout its history. With the amending of the IEEE Constitution in 1972 to add matters of professional concern, IEEE/SEM created the position of Director of Professional Activities to concentrate on the professional as well as technical needs of its members. The section has reorganized its structure of directors to be more responsive to the needs of the technical society chapters, student branches, and individual members.

IEEE/SEM presented a half-hour program in 1974 on [WTVS/Channel 56](#). It was a panel discussion on “Nuclear, Solar, and Windmill Energy Sources as a Solution to the Energy Crunch.” In 1983 and 1984, IEEE/SEM co-sponsored with the [IEEE Columbus, Ohio Section](#) a new regional, high-technology electronics show and convention called OHMCON. During the 1981-82 section business year, IEEE/SEM operated a telephone news line and job posting system. An electronic bulletin board was operated during 1987-99 using a computer system purchased with funds from IEEE Region 4.

The section revitalized the format of Wavelengths in 1988-89 under an active new editor. The section adopted a new format for the IEEE/SEM Fall 1990 Meeting that included parallel technical society meetings that preceded a general section meeting; the new format stimulated the interest and attendance of section members and guests. In 1992, under the leadership of the Director of Professional Activities, the section jointly co-sponsored several technical job fairs in Southeastern Michigan with job-fair producers in order to advance the employment needs of the members.

Section Geography

The boundaries of IEEE/SEM encompass the counties of Clinton, Eaton, Ingham, Jackson, Livingston, Macomb, Oakland, St. Clair, Washtenaw, and Wayne in Michigan. IEEE/SEM has grown from 2,200 members in 1963 to approximately 2,500 members in 1973 and over 4,000 members in 1996. The section has student branches at eight (8) universities in Southeastern Michigan. There are used to nine chapters, and now we are eighteen (18) chapters that represent twenty-five (25) IEEE technical societies. IEEE/SEM has over forty section officers, directors, and chapter officers.

Section Volunteers Today

IEEE/SEM has a great deal to offer its members, both technically and professionally. Members through service with IEEE/SEM can contribute to fellow members and play a role in the development of the section. Members may volunteer to work with a committee, attend technical meetings, assist with program activities, serve as an editor with Wavelengths, solicit funds for various programs, and seek election to an office. The section sponsors technical and professional programs that provide each member with the opportunity to participate and learn about the new technologies and network with peers in the electrical, electronics, and computer engineering profession. Members interested in volunteering should contact the chapter chair or one of the executive committee members. I wish to acknowledge the contributions of Mr. Frank Klaes to the content of this article. Frank was the first chair of IEEE/SEM when AIEE and IRE merged in 1963. Frank's firm, Engel-Klaes Co. has been an advertiser in Wavelengths from the beginning. Thanks, Frank, for your support and assistance!

Sharan Kalwani, email: chair@ieee-sem.org

Chair, IEEE Southeastern Michigan Section (2022-2023)

Enthusiastic IEEE Section & Chapter & Committee volunteer since 2011

Past Chairs of the Michigan Section of IEEE

1963-1964	F.F. Klaes	1980-1981	L.F. Kazda	1998-1999	George Peters
1964-1965	R.O. Sather	1981-1982	J.J. Kolb	1999-2000	Sandy Hunter
1965-1966	K.E. Jamison	1982-1983	J.F. Firlit	2000-2001	J. Woodyard
1966-1967	D.C. Achtenberg	1983-1984	J.B.Kreer	2001-2002	J. Miller
1967-1968	B.S. Quell	1984-1985	D.E. Solomon	2002-2003	M. Snyder
1968-1969	W. Kerwick	1985-1986	L.A. Murray	2004-2005	S. Barada
1969-1970	M.P. Ristenbatt	1986-1987	J.R. Grady	2006-2007	Mark Ciechanowski
1970-1971	J.H. Bryant	1987-1988	R. Wieszczyk	2008-2009	Chris Mi
1971-1972	J.H. Bryant	1988-1989	N.M. Boustany	2009	David Laurent
1972-1973	N. Alimpich	1990	M.A. Shanblatt	2010	R. Stevenson
1973-1974	E. Longman	1990-1991	V.V. Liepa	2011	Kimball Williams
1974-1975	H.G. Hedges	1991-1992	D.C. Bramlett	2012-2013	Imad Makki
1975-1976	E.M. Aupperle	1992-1993	S.N. Basu	2014-2019	Robert Neff
1977	P.A.E. Rusche	1993-1994	M.K. Krage	2020	David Mindham
1977-1978	M.W. Davis	1994-1995	S. Bajpayee	2021-2023	Sharan Kalwani
1978-1979	W.D. Becher	1995-1996	D.G. McKendry		
1979-1980	D.H. Winner	1996-1997	Dave Horvath		

Section 60th

Once in a lifetime!
Section 60th Anniversary



**Saturday Afternoon Tour, Light Show
with an evening dinner: 3 to 8 pm
November 4, 2023**

Sloan Planetarium & Flint Institute of Art
Flint, Michigan



IEEE

**Southeastern
Michigan**

Electrical and Electronic Engineers Creating Our Future

EMC Grand Rapids

The EMC 2023 Symposium in Grand Rapids has concluded and most of the dust has settled. If you missed this one, you missed a good one. The 2023 committee did a wonderful job which resulted in a bumper crop of papers, tutorials, exhibits and meetings with old friends that have been long delayed.

We also missed several members who will never join us in the flesh again. Among those was one of our own: Takeo Yoshino JA1XF. I for one, will miss that gentle soul.

On a side note, it turned out that the convention center was also the site for this year's USA National Chess Championship! There were more than a few legends attending those games.

2023 Events:



Above: EMC Society President, Vignesh Rajamani cuts the ribbon in the ceremony that opens the exhibit hall for the 2023EMCSIPI Symposium.

Front row, left to right, Mark Steffka, 2023 Committee Chair, Gene Saltzberg, Technical Program Chair, Vignesh, and Alistair Duffy, immediate past EMC President.

Fundamentals Tutorial:

Perhaps the single most popular class, ever since it was introduced, in every Symposium has always been the Fundamentals Tutorial. This year was special since this class has now been officially designated as the Henry Ott Fundamentals Tutorial and will honor Henry's contribution to the field of EMC engineering from now on.

We were delighted to have Henry's daughter, **Carol Ott**, attend the Symposium and learn just how influential her father was to the development of EMC technology. Carol Ott was wide eyed to learn just how significant her father was and the esteem for Henry that was felt by all of us who knew and worked with him.



Tutorials/Workshops

All the classes were well attended:



Everyone stayed alert and entertained



Global University (58)

The Clayton Paul Global University had a record attendance of 58!



Todd Hubing presenting.

Grand Rapids Overall:

First the numbers:

Total Number Attended	1300
Total Number of Sessions	84
Number of Booths Sold	91
Total Papers	178
Total Number of Workshops	30
5 Day Full Registrants	568
Exhibit Hall-only Registrants	191
Companion Club, Adult	21
Student Technical Registration	83
First time attendees	34%

Companion & Tech Tours organized by **Natalia Mee:**

Organized 4 companion tours: (# attending)

- Walking tour of Grand Rapids (20)
- Grand Lady River Boat Tour on the Grand River (29)
- Tour of Frederick Meijer Gardens and Sculpture Park (16)
- Aroma Labs in Grand Rapids (6)

And Organized 2 technical tours:

- GVSU / E3 Compliance – Engineering program and EMC & High-speed lab (70!)
- Intertek Labs – EMC Lab tour (30)

Social Events:

- **Welcome Reception:** 492



Everyone relaxed and got re-acquainted. Some had more fun than others.

- **Gala Dinner:** 474



Staff-Ready and Waiting.

- **Awards Lunch:** 408



Janet O'Neil, VP-Member Services, presented awards to members of the EdCom.



Here Janet is joined with Gene Saltzberg to present an award.



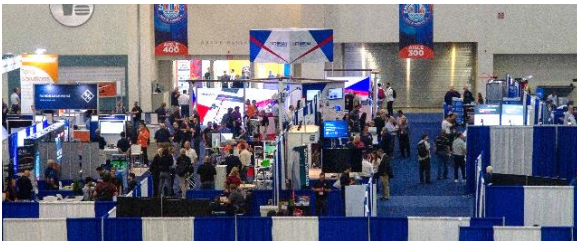
Some awardees were more excited than others!



The entire volunteer team was incredible and hard working.



Exhibits:



One corner of the exhibit's hall showing a small portion of the large space.

Past Presidents Photo:

One of the 'Must Have' items at any EMC Symposium is the obligatory photo of all the attending Past Society Presidents.



Left to right:

Front Row: Dan Hoolihan, Todd Hubing, Kimball Williams, (does he ever smile?) and Elya Joffe.

Back row:

Bruce Archambeault, Alistair Duffy and our current President, Vignesh Rajamani.

TC and Standard Activities of interest:

EMCSIPI2023 also saw the inclusion within TC3 of a new subcommittee on the topic of 'Communications and EMI' with the intend to begin the work necessary to document threats to communications systems, identify measurement methods for, mapping, and correlating data from various sources, and engaging other interested organizations to build a network and put enough 'boots on the ground' to gather meaningful data.

Two current IEEE standards are seen as likely starting points to work with:

IEEE 473-1985: IEEE Recommended Practice for an Electromagnetic Site Survey (10 kHz to 10 GHz)

IEEE 1897: Draft Recommended Practice for the Resolution of Power-Line Gap-Noise Reports

Sub-Committee Charter:

One of the first tasks will be the creation of a charter for the subcommittee and that is a task that must involve the current TC3 members, and those of our Ham members who are likely to step up to become full members of TC3 and help carry the work forward as it evolves.

If you are willing to help with these efforts, please send me an email to let me know.

(k.williams@ieee.org)

Amateur Radio in Grand Rapids:

Due to a "Series of Unfortunate Events" all the Amateur Radio activities planned for EMCSIPI2023 hit a rock and sank.

Looking back and gathering information from members of the symposium team, I learned that much of the difficulties can be traced back to poor judgement on my part.

To quote 'Walter Kelly' in his POGO comic strip: "We have met the enemy, and he is us!"

OK, we shot ourselves in the foot. But we can learn from this experience and go forward. 2024 is a whole new event, and a whole new opportunity to help the rest of our members understand what the Amateur Radio Community is all about.

2024 Planning:

Conversations with Vignesh Rajamani current EMC-S President and Chair of the 2024 EMCSIPI Symposium have evolve the following general guidelines for Amateur Radio content in the event:

EMC & Ham Radio in Phoenix – 2024

- Ham activities align with EMC-S interests.
- Share EMC-Society booth in the exhibit's hall.
- Tutorial aligned with EMC-S functions.
- Ham Radio luncheon as a 'buy your own box lunch' and join us in the room.

Grand Rapids saw a great Symposium which surpassed expectations on most fronts. Phoenix should be even better.

See you all there!

Member News

This month we are featuring several of our colleagues who have achieved senior member status.

CONGRATULATIONS to all! (Okay let me name them: JK Tummala and Ashok Garantla)

**Jaya Krishna Tummala:**

Jaya Krishna Tummala is Senior QA Engineer who has delivered outstanding outcomes in the Utility industry. Has written two articles on the importance of system integration testing in the Utility industry. His expertise enables streamlining of utility applications for several modules Customer information, Infrastructure, revenue management, measurement services and Metering services. Jaya Krishna past accomplishments include spearheading the successful execution of multiple large projects in manufacturing, Healthcare, agriculture and telecom industries. Jaya Krishna holds a Master of Science degree in computer science from University of Illinois, Jaya Krishna possesses a strong foundation of academic excellence to complement his extensive professional experience.positions with General Motors and Ford.

Ashok Garantla:

Ashok is a highly accomplished and results-driven leader with a proven track record in business analysis, solution architecture, and driving business and technical transformations. With extensive experience in advanced software solutions and products, as well as leading prestigious organizations' Centers of Excellence, Ashok has consistently delivered outstanding outcomes. In his current role as an AI/ML Product Leader, Ashok leads the charge in designing, implementing, and enhancing cutting-edge algorithms utilizing AI/ML, predictive analytics, and adaptive analytics. His expertise enables the creation of contextual, relevant, and personalized customer experiences across wireless and wireline telecommunications business units, resulting in increased profitability, customer loyalty, and sustained growth.

Ashok's past accomplishments include spearheading the design, development, and successful execution of multiple large-scale projects in the healthcare industry, specifically in areas such as customer service, Medicare management, and care management systems. Holding a Master of Science degree in Computer Science from Georgia Tech, Ashok possesses a strong foundation of academic excellence to complement his extensive professional experience.



Sharan Kalwani, email: chair@ieee-sem.org

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

Enthusiastic IEEE Section & Chapter & Committee volunteer since 2011

IEEE Day 2023



In most areas outside IEEE-USA, IEEE Day has almost the status of a major holiday. Sections have major activities and there is strong participation in the Photo and Video Contests. Badges are earned and Collaboratec is full of information about the various celebrations of the day when engineers came together to share their technical expertise. But in Regions 1 through 6 activities are few and far between. Some sections in Region 10 have more IEEE Day Ambassadors than entire USA regions!

Our Section has anywhere between 2500 to 3000 members (it varies as folks retire, join, relocated in or out of the area, etc) AND can be as creative and productive as our counterparts anywhere else. We are just as clever as the members of any of these sections. The IEEE Day window is on October 3rd, during that week, which activities qualify as IEEE Day Activities provides an excellent opportunity for recruiting students returning to school and professional members regrouping after summer. It is also a great time to remind our industry partners of the educational opportunities available through ILN (IEEE Learning network) and IEEE.TV (our own streaming service for selected videos only), plus several other societies. The classes, workshops, and lectures available via the various IEEE

avenues can be used to provide excellent continuing education to engineers working through out your section.

Once again there will be free presentations by the various societies and other IEEE entities like ILN. There will be free and discounted classes and mini-courses on a wide range of topics. Discounts on some future conferences will be offered when registration is done during IEEE Day window. New members will again be offered a discount to join. Many societies will be offering free or discounted fees for becoming society members. These should be great enticements for new members to join or lapsed members to return. In many cases the discount is extended to both professional and student members.

There will once again be prizes for photos and videos submitted to the contests. Badges will be offered to those who complete a series of tasks associated with IEEE and its long history.

The Region IEEE Day Lead will work with the Section IEEE Day Ambassadors to coordinate activities with the local society chapters, affinity groups and student branches. Publicizing the local activities and the national offerings in local media can attract new members and reinvigorate existing members. Sending information to local media, libraries, companies, and even schools can help to attract attendance from outside the organization.

October 3 – the date of IEEE Day for 2023 – seems like part of a distant future, but given the annual summer slowdown, it is much closer than one might think. This is a great time to start planning both activities and how to publicize them.

There will be additional guidance in the months leading up to IEEE Day to help Sections, Chapters, and Student Branches in the field, for IEEE Day celebrations to rival those in any Region. Now is the time to begin the discussions that will lead to a successful IEEE Day 2023. Let's prove that we can be as successful with its IEEE Day observances as our IEEE colleagues all over the world.

Sharan Kalwani, email: chair@ieee-sem.org

Section IEEE Day Lead

Chair, IEEE Southeastern Michigan Section (2022-2023)

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

Enthusiastic IEEE Section & Chapter & Committee volunteer since 2011

RoboFest Report



Robofest eNewsletter 09-20-23

- (1) [AI and Machine Learning with Scratch Coding Workshop for Everyone](#)
- (2) [Fall UMC Scholarship Competition and Workshop for High School Students](#)
- (3) [2024 Season Kickoff Dates](#)
- (4) [State of Michigan 99h Robotics Competition Grant now includes Robofest](#)
- (5) [Technical Committee Members Announced](#)
- (6) [Seeking Site Hosts for 2024 Competitions](#)

Note: All times are listed in Eastern Time unless noted

(1) AI and Machine Learning with Scratch Coding Workshop for Everyone

The use of AI has been encouraged in Robofest exhibition style competitions since 2023. Dr. CJ Chung, Robofest Founder, is conducting an AI and Machine Learning with Scratch Coding Workshop for teams of 1 to 2 students in grades 5~12.

Sat, Oct 7, 2023, 1:00 PM ~ 4:00 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.

Agenda: (1) Intro to AI/ML/DL (2) Intro to Scratch coding (3) Intro to math equations (4) Intro to Teachable-Machine (5) Collecting image datasets and training with Teachable-Machine (6) Coding the Hand-MathDance Game.

Prerequisite: at least one year of coding experience is highly recommended.

Bring your computer (PC or Mac) per team with a built-in webcam & any Internet browser.

Register for this FREE workshop at:

https://www.robofest.net/rms/SharedPagesServlet?cmd=getGenericSiteWebPage&year=2024&location=WS_AI_Scratch_Coding_Oct7

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

Robofest is hosting a very special Unknown Mission 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 2023 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 4, 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.

Register at:

https://www.robofest.net/rms/SharedPagesServlet?cmd=getGenericSiteWebPage&year=2024&location=UMC_Scholarship_LTU

A free workshop has been scheduled for registered students to prepare for the competition using VEX IQ robot kits and VEXCodeIQ. Students who attend the UMC workshop may borrow a VEX IQ robot kit for the competition on November 4.

Workshop: Sat, Oct 21, 2023, 1:00 PM ~ 5:00 PM
At Lawrence Technological University, Robofest Lab, J234

Registration link:

https://www.robofest.net/rms/SharedPagesServlet?cmd=getGenericSiteWebPage&year=2024&location=WS_UMC_Oct21&superAdminMenu=1&siteAdminMenu=1&coachMenu=1

(3) 2024 Season Kickoff Meetings

The Robofest 2024 Season Rules will be released on Saturday, September 30, 2023. There will be a series of kickoff meetings to review the rules for clarification prior to the final release in November.

The kickoff meetings will be held:

Friday, October 6, 2023 9:00am~ 10:30am (Zoom only)

Thursday, November 2, 2023 7:00pm ~ 8:30pm (In person and Zoom)

Saturday, January 13, 2024 10:00am ~ 11:30 am (In person and Zoom)

The Zoom links are posted on the 2024 Main Page (under the Get Involved tab) on the robofest.net website.

(4) State of Michigan 99h Robotics Competition Grant now includes Robofest

Robofest is an official program provider for the Michigan Department of Education 99h Robotics Competition Grant which provides funding to Public School Districts, Intermediate School Districts, and Nonpublic Schools to participate in Robofest. Grants for 2023/2024 teams (between \$500 and \$1,200) and Coach Stipends (between \$1,000 and \$1,500) will be available for Robofest teams that are pre-registered in the Robofest Registration system by December 31, 2023. (Pre-registration is open for all categories) More information and detailed instructions is available on the Michigan Department of Education website.

“Introduction to Robofest Coaching” Workshops for new coaches will be scheduled soon to introduce the 99h grant Robofest opportunity and offer coaching strategies for a successful team experience.

(5) Technical Committee Members Announced

The 2023/2024 Robofest Competition Category technical committees have been formed. Each committee has been

Game	Exhibition	BottleSumo	RoboArts
Elmer Santos (*)	Shannan Palonis (*)	Elmer Santos (*)	Pam Sparks (*)
John Arnold	Ben Gonzalez	Chris Parker	Kevin Gallatin
Chris Cartwright	Jelani Stowers	Peter Guenther	Erik Rosvold
Peter Guenther	David Carbery	David Carbery	Curtis Sharif
Wisam Bukaita	Ajay Choudhary	Karthik Devaraj	Nathan Enright
CJ Chung	Elmer Santos	CJ Chung	CJ Chung
	CJ Chung		
UMC	RoboMed	RoboParade	Vcc
Elmer Santos (*)	Yawen Li (*)	Pam Sparks (*)	Erik Rosvold (*)
Curtis Sharif	Choongbae Park	Kevin Gallatin	Tejas Patil
Daniel Oliver	Hao Jiang	Katie Bis	Rodrigo Rodriguez
Destiny Anyaiwe	Aleksandra Kuzmanov	Daniel Oliver	Emily Trudell
Scott Eisele	CJ Chung (*)	Jennifer Minuado	Nathaniel Johnson
CJ Chung		Elmer Santos	Steven Lowe, Jr.
		CJ Chung	CJ Chung

(*) Category Chairperson

working to define/design/refine competition rules, and members will be involved in judging World Championship events and qualifying competitions. A short Bio of each committee member has been posted on the category pages of the Robofest website. Thank you to all who volunteered:

(6) Seeking Site Hosts for Competitions

Robofest is seeking site hosts for the 2023-2024 Competition Season for Robofest Game and Exhibition Qualifiers as well as Open events. We hope to have all sites registered and ready for team registration in early November 2023. Interested

individuals, organizations, or schools should contact the Robofest office at robofest@ltu.edu or visit <https://robofest.net/index.php/for-site-hosts> for more information or to download the application.

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, Founder, Executive Council Chair, cchung@ltu.edu

<http://www.robofest.net>

<http://facebook.com/robofest>

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

Embedded Systems Workshop 2023



21st Annual Embedded Systems Workshop

October 28th, 2023, 8:30 AM to 1:30 PM EST/EDT Time Zone

IEEE Computer Society and IEEE Education Society (Southeastern Michigan Technical Chapters) are offering a workshop on Embedded Systems on Saturday, October 28th, 2023. This workshop is open to all industry professionals, both experienced and newly minted engineers, as well as students. This is the **21st year** that the event is being held. The theme for this year is: “Diverse/Novel Applications of Embedded Systems”.

The aim is to disseminate knowledge, directly benefiting the IEEE members, at the same time **improve the technology skills pool, indirectly boosting the economy**. Speakers and experts from the embedded systems industry will be making presentations and will also be available for discussions and networking during the event. In addition to the technical presentations, there will be industry interaction and potential recruitment sessions. Use this opportunity for virtual networking with engineers, industry experts and embedded enthusiasts.

Please confirm your participation by registering on the IEEE events web site

Deadline is 24th October, 2023 9 AM



Speakers in the past: Beningo Embedded Group, Infineon, TeKnowledge, Intrepid CS and others...

Attendees: There is a small one-time cost of \$5 (IEEE members and students) to attend, this will help cover door prizes, video recording, storage, presentations, a dedicated website and other logistics. Several random raffles representing the embedded systems industry will also take place. All are welcome. Do post this flyer in your workplaces, share/inform your peers & colleagues about this event. It is a great way to learn not only what is going on, but also network (virtually) with other professionals as well.

Brought to you by the IEEE SE Michigan Computer & Education Society chapters. Do seriously consider joining the IEEE, boost your technical skills, broaden your awareness of compute-based engineering in the region, support numerous similar initiatives & learn other benefits this brings.

Open to all, Pre-registration is necessary for attending!

<https://events.vtools.ieee.org/m/371793>

For Technical questions, contact the Program Committee at: esw2023@ieee-sem.org

A CEU/PDH Certificate will be made available for participants who Pre-register and attend

ESW 2023 Organizing Committee: Subra Ganesan (Chair), Sharan Kalwani (Vice Chair), Ramesh Sethu and Ben Sweet

Bluetooth: History

Tech History: How Bluetooth got its name

By Jim Kardach 03.05.2008;

Reformatted by Sharan Kalwani from a Reprint <https://www.eetimes.com/tech-history-how-bluetooth-got-its-name/>

In 1996 a number of companies were looking to standardize the industry around a short-range radio link for doing a number of things which seem obvious today (not so obvious in 1996).

Within Intel, I had started a program called Business-RF; Ericsson had a program called MC-Link; Nokia had a program called Low Power RF. At the time we were in discussions to figure out the best way to drive a single wireless standard in



the industry in order to prevent fragmentation of technologies in this area (remember that in 1996 nothing existed).

Figure 1: Late 20th century marketing slide showing the value of wireless personal area networks .

As we would approach different companies to talk about what short range wireless technologies could do and how having a single short-range standard would be so much better than having three or more competing and fragmenting standards, it became apparent the need to have a single name; as Intel would talk to people about “Biz-RF,” Ericsson about “MC-Link” and Nokia about “Low Power-RF,” which also created confusion.

In December of 1996 we figured we had the right mixture of companies to be successful in driving the technology through a Special Interest Group (SIG) and met in Lund, Sweden at the Ericsson plant to get final agreement on forming the SIG.

At this time, Intel proposed that the SIG be called by the “codename” Bluetooth until the SIG’s marketing group would come up with a formal technology name. When asked about the name Bluetooth, I explained that Bluetooth was borrowed from the 10th century, second King of Denmark, King Harald Bluetooth; who was famous for uniting Scandinavia just as we intended to unite the PC and cellular industries with a short-range wireless link.

Where did I hear about the name Bluetooth? This originated on an earlier business trip to Toronto, Canada where Ericsson’s Sven Mathesson and I were presenting our technology proposal to an existing SIG; Sven pitching as MC-Link, and me pitching as Biz-RF.

After having our proposal firmly rejected, we went on a pub crawl through wintrily, blustery Toronto. Being a big history fan, I would trade stories of history with Sven.

Now Sven knew lots about radios, but not too much about history, but he had read this book (which at a later date he gave me a copy) called the *Longships* by Frans G. Bengtsson and would relate the history through this story.

In this book a couple of Danish warriors travel the world looking for adventure, and the king during this time was Harald Bluetooth.

When I got home from this business trip, a history book I had ordered called the *The Vikings* by Gwyn Jones” had arrived. Thumbing through the book, I found this (see Figure 2) picture of a giant rock, or runic stone, which depicted the chivalry of Harald Bluetooth, the guy which Sven just told me about!

Reading further, the book indicated that King Harald had this memorial made for Gorm his father and Thyri his mother: that Harald who won for himself all Denmark and Norway, and made the Danes Christian.”



Figure 2: Late 20th century marketing slide showing how (among other things) laptops and cell phones preceded the discovery of the Silicon Valley.

Harald had united Denmark and Christianized the Danes! It occurred to me that this would make a good codename for the program. At this time I also created a PowerPoint foil with a version of the Runic stone where Harald held a cellphone in one hand and a notebook in the other and with a translation of the runes:

- Harald united Denmark and Norway
- Harald thinks that mobile PC's and cellular phones should seamlessly communicate

In any case, the marketing group was formed under the leadership of Simon Ellis (Intel) and Anders Edlund (now with Bluetooth SIG) and they started working on official “names.” The suggestion I just can’t forget was “Flirt” with the catch phrase “getting close, but not touching.” The naming process would continue for a long time.

In February timeframe the contracts to form the SIG were finalized, but we still didn't have agreement on a name; so the codename “Bluetooth” was inserted into the contracts and the Bluetooth SIG was formed. The marketing group was still debating away on the real name.

The signing of the SIG contracts allowed the technical working groups to start working on the specifications. At the same time we needed to announce the formation of the SIG which was picked to occur in the month of May.

At this point we needed to have an official name and we had picked a board meeting the month before the launch to agree upon the name such that we could start printing collateral.

The different companies in the SIG were each developing their own names for the technology, however at this time the two top contenders were RadioWire (the Intel proposal) and PAN (for Personal Area Networking, the IBM proposal).

In April we held our board meeting and voted for the official name which went to PAN in a 4-1 vote. At this point everybody started using the name PAN and we were driving towards the launch event which would occur in about four weeks.

About a week later, an emergency meeting was called. The other member companies had performed a trademark search on the word PAN and surmised that this would be a poor candidate for a trademark: an internet search produced tens of thousands of hits.

It turned out that no trademark search was done on the backup name (Radio Wire) and the only name we could go to launch with on short notice was *Bluetooth!*

It was decided then that we would go ahead and launch the SIG with the codename “*Bluetooth*”, but would then change the name when the marketing group came-up with the official name.

Needless to say, the codename turned out to be a pretty good, took hold of in the press and after a while became synonymous with short range radios, so synonymous that when the SIG applied for a US trademark it was originally rejected because *Bluetooth* is synonymous with “short range radios,” but that’s another story.

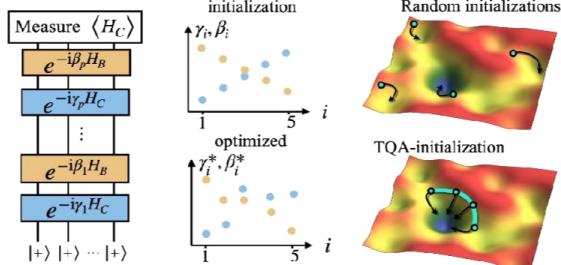
About the author

Jim Kardach helped form the *Bluetooth SIG* and ran it until around 2001 and for his efforts was inducted into the *Bluetooth Hall of Fame*.

A longer version of this story (with a lot more fun details) can be downloaded at Jim's blog site at www.kardach.com/bluetooth/runic_stone_journal/runic_stone_journal.html.

Optimization: Quantum Computing

IEEE Southeastern Michigan
Presents a Technical Talk on
Introduction to Optimization using Quantum Computers



Alex Khan will go over how quantum computers and quantum annealers are being used for optimization problems and some use cases. He will share some information from his book "Quantum Computing Experimentation with Amazon Braket" and results from some of the practical optimization use cases he has worked on using quantum computers.

Speaker Bio:

Alex Khan is an advisor, entrepreneur, and educator in quantum computing. He has had roles at Chicago Quantum, and with ZebraKet, a Canadian startup, where he is the co-founder, on inventory replenishment and sensor placement optimization. He is the author of "Quantum Computing Experimentation with Amazon Braket". He is an engineering/physics dual major and received his BSME from Purdue, MSME from KSU, MBA from Duke University, and a certificate in quantum computing from MITxPro. He has been recognized by The Quantum Daily as one of the 126 advisors shaping the Quantum Computing Industry.

Quick Summary

- When:**
Date: Oct 10, 2023
Time: 06:00 – 7:00 PM (EST/EDT)
- Where:**
ONLINE/Virtual via WEBEX
- Audience:** OPEN to ALL

Sponsored by
IEEE
Southeastern Michigan
Education Society & Computer Society
Technical Chapters

***Pre-Registration Required**
<https://events.vtools.ieee.org/m/375544>



Embedded Systems Intro

**IEEE Southeastern Michigan
Presents an education tutorial:
Introduction to Embedded Systems**



Quick Summary

- **When:**
Date: Oct 14, 2023
Time: 08:30 – 10:30 PM (EST/EDT)
- **Where:**
Virtual/Webex
- **Audience: OPEN to ALL**

**Sponsored by
IEEE
Southeastern
Michigan
Education Society
& Computer Society
Technical Chapters**

***Pre-Registration Required**

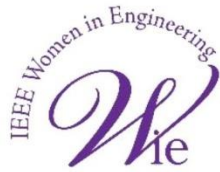
<https://events.vtools.ieee.org/m/375548>



IEEE Southeastern Michigan Section



WiE Summit



Join us **November 3, 2023** at the IEEE Women in Engineering Leadership Summit in Detroit to explore battery innovations, microgrids, clean water, supercomputing and cutting-edge AI. Learn innovation management best practices, gain inspiration from real stories about navigating big-tech layoffs, and get a behind-the-scenes look at OpenAI, ChatGPT, and LLMs. Reaffirm the importance of STEM education to supercharge your career, refresh your engineering leadership skills, and contribute to advancing technology for the benefit of humanity. See our all-star lineup of [speakers](#) below:

				
Amy Gile CEO & Co-founder, Silverdraft Supercomputing	Adrienne Pierce CEO, New Sun Road, P.B.C	Muge Wood Co-founder, Refirement.life	Hala Ballouz CEO of Electric Power engineers; CEO of ENER- i.AI Energy Intelligence	Ed Palacio IEEE USA President 2023 President, P&L Technical Management Solutions
				
Gina Aquilano Fellow, Sr. Director Advanced Technology, Analog Devices Inc.	Carlene Bills President & CEO of Ford Component Sales	Dr. Shu-Guang Li Founder, Magnet4Water, Professor MSU Environmental Engineering	Kim Enders Certified Financial Planner Practitioner and Plan Fiduciary Advisor	Deirdre Roberson Co-Founder and Co-CEO of The Lab Drawer
				
Dr. Sibrina Collins Executive Director of STEM Education, Lawrence Technological University	Kim Getgen Founder and CEO, Innovation Force	Jennifer Marsman Principal Engineer in AI, The CTO Office, Microsoft Corp.	Amy Courter Major general, National Commander, CEO of the civil air patrol	Cecilia Fung Principal at The Holistyx Group, Ex-Google, Microsoft, and PwC, Innovation Leader

[Register Here](#)

We look forward to seeing you on **November 3**, at the [Detroit Microsoft Technology Center!](#)



Visit wie.ieee.org/join



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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

Organization Unit IEEE Code	Student Technical Chapter name
SBC00531	University of Detroit-Mercy, Computer Society Chapter
SBC02251	Wayne State University, Computer Society Chapter
SBC03921	Lawrence Tech University, Computer Society Chapter
SBC06741	Oakland University, Engineering in Medicine & Biology

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: we have updated this part with the newly formed Magnetic Society Chapter

*/

Curated & Maintained By

Sharan Kalwani,

Chair, IEEE Southeastern Michigan Section (2022-2023)

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.

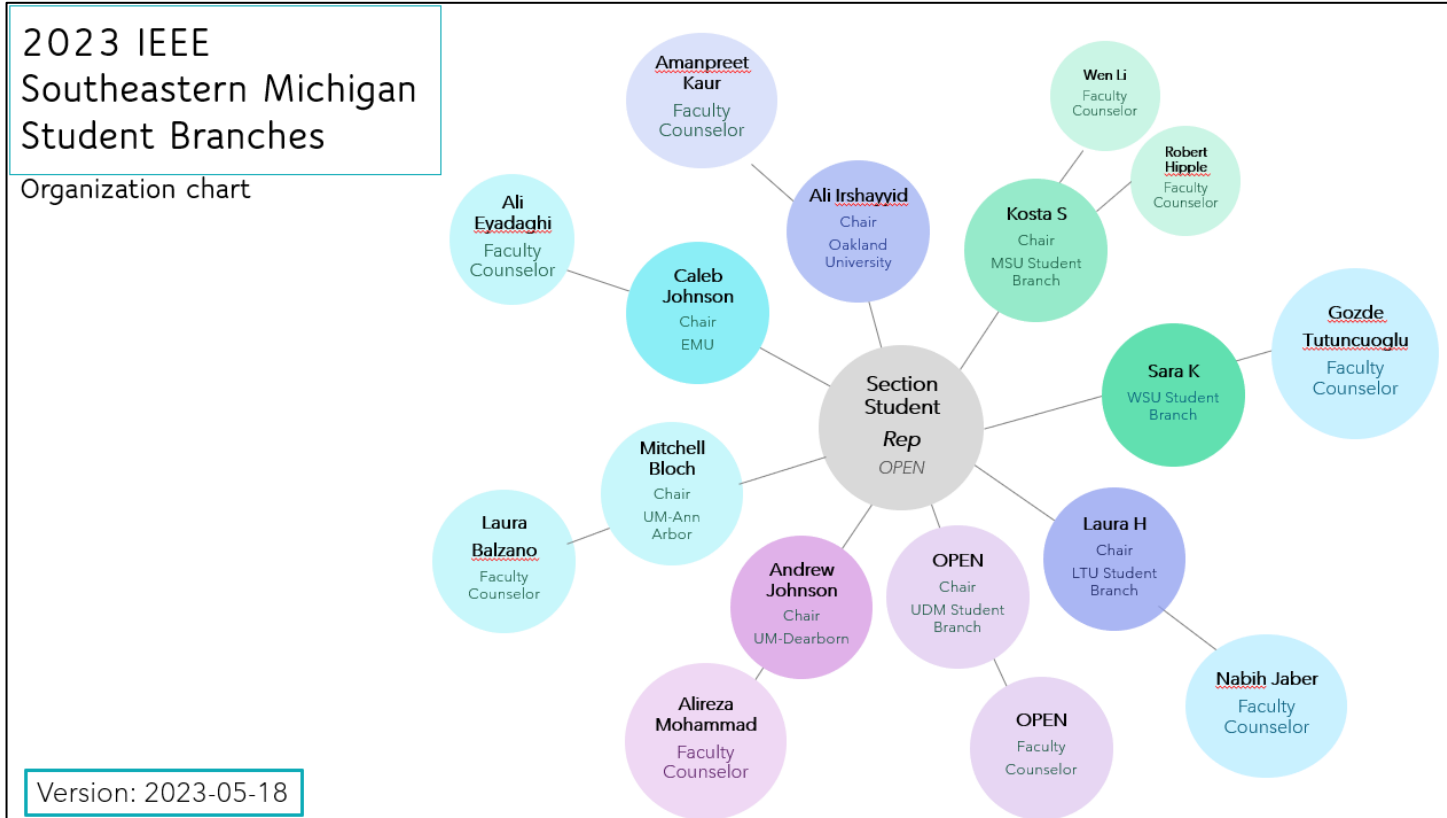
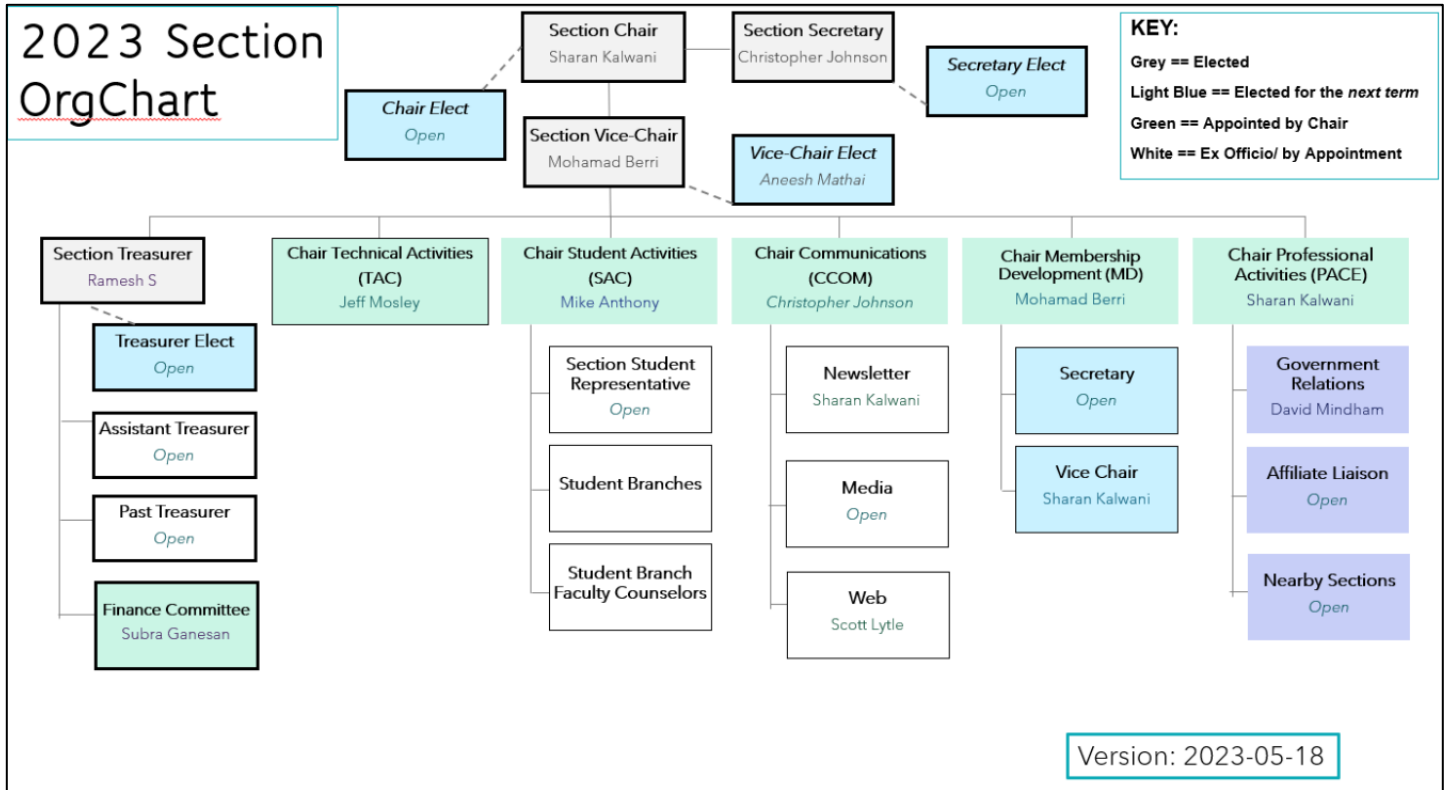
More detailed information on meetings may be found through the IEEE SEM Website: <http://r4.ieee.org/sem/> and clicking on the **SEM meetings list** button near the bottom of the left-hand banner.

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!)



ExCom Meeting Schedule

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

Below is the 2023 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 2023 meetings. Or, link your personal calendar to the SEM Web calendar.

Section Administrative Committee (ExCom) Meeting Schedule for 2023: (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 & Time</i>
SEM Section ExCom Monthly Meeting (virtual) For OCTOBER 2023	12 Oct 6:30 PM
SEM Section ExCom Monthly Meeting (virtual) For NOVEMBER 2023	9 Nov 6:30 PM
SEM Section ExCom Monthly Meeting (virtual) For DECEMBER 2023	14 Dec 6:30 PM

Christopher Johnson (Secretary)

Email: secretary@ieee-sem.org

Section Administrative Committee (ExCom) Meeting Schedule for 2023: (screen snapshot)

SEARCH EVENTS

[Learn how to integrate Event notices with your website](#)
[Hey! I want the old Search page.](#)

Search Options
Advanced Search
Clear Search

Search Term ?

Organizational Unit ?

Date Range ?

Showing 4 of 4 upcoming events, based on search criteria. Download

Title	Date	Host	Location	Reported On	Options
<input checked="" type="checkbox"/> SEM Section ExCom Monthly Meeting (HYBRID) For SEPTEMBER 2023	14 Sep 2023 06:30 PM	R40035	Southfield, Michigan		View Manage
<input checked="" type="checkbox"/> SEM Section ExCom Monthly Meeting (virtual) For OCTOBER 2023	12 Oct 2023 06:30 PM	R40035			View Manage
<input checked="" type="checkbox"/> SEM Section ExCom Monthly Meeting (virtual) For NOVEMBER 2023	09 Nov 2023 06:30 PM	R40035			View Manage
<input checked="" type="checkbox"/> SEM Section ExCom Monthly Meeting (virtual) For DECEMBER 2023	14 Dec 2023 06:30 PM	R40035			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

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lunnmalcolm@me.com

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

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 “” button under the top row)

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

SEM LinkedIn Page

(Select the “” button under the top row)

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

SEM Twitter Account (new)

(Select the “” button under the top row)

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

SEM Collabratec Workspace (new)

<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 Officers, see the SEM Officers Roster on the web page (top banner)

Section Officers

Section Chair

Sharan Kalwani

Section Vice-Chair

Mohammad Berri

Section Secretary

Christopher Johnson

Section Treasurer

Ramesh Sethu

Standing Committees:

Section Adviser

Don Bramlett

Wavelengths Editor

Sharan Kalwani

Chair Educational

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

Chair Stud Br Mentors

Don Price

SECTION Student Rep

OPEN

Chair Technical Activities

Jeffery Mosley



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>