Wavelengths

IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

Volume 63 – Issue 01

Contents

Upcoming Events

We have several events coming up this month, all are listed below, FYI.
Note: All times are EST/EDT. You can also use this bookmark to view ALL of the links at a single glance **http://bit.ly/sem-upcoming**

Event	Date	Time
Supercomputing 2022 conference report	10 Jan 2023	05:30 PM
Ch8: AdCom Teleconference	12 Jan 2023	11:00 AM
SEM Section ExCom Monthly Meeting (virtual) For Jan. 2023	12 Jan 2023	06:30 PM
Winter 2023 MOVIE NIGHT => The life of James Clerk Maxwell	13 Jan 2023	05:30 PM
AMD CPU, GPU and FPGA Road Map………4th Gen EPYC Genoa and Beyond	17 Jan 2023	06:00 PM
EMC Society Monthly tech Meeting	19 Jan 2023	05:30 PM
Documentary - Top Secret Rosies: The Female 'Computers' of WWII	20 Jan 2023	05:30 PM
Homi J Bhabha: His Life & Legacy	24 Jan 2023	05:30 PM
Hot Chips 2022 conference report	26 Jan 2023	06:00 PM
Protection Systems of Solar Collector Substations (Virtual Event)	27 Jan 2023	10:00 AM

If any events are missed do kindly bring them to the attention of wavelengths@ieee-sem.org. Thank you!

Chair's Column

Welcome to the January 2023 edition of the Wavelengths.

Spring 2023 Section Conference:
March 28, 2023 (Tuesday) is the rebirth/rejuvenation of our Sections conference. Please see "Save the Date" flyer in this issue of Wavelengths. The conference is now in its final planning stages, we recommend you get in touch with our Sections Conference chair: Keyur Patel (conference@ieee-sem.org) for information. Student posters are welcome and all the various student branches will be contacted by our new Section Student Representative – Mohamed Faisal (contact info: faisalmd@msu.edu). We will have 3 main keynote speakers, dinner, awards and a massive opportunity to network in-person once again!

Elections:
Elections for 2022 are now over. We are now preparing online virtual training to help both old and new officers, members and volunteers to effectively use IEEE resources in service to our community and society at large. Do check the schedule for these classes.

2023 Budget:
The ExCom began reviewing the 2023 budget in December. Our Finance Committee chair has issued a call for budget input this week. Chapters, Affinity Groups and Committee Chairmen are asked to look it over at provide input. If you were granted a budget amount last year, you must adjust and justify what you expect for income and expenses for 2023. Please advise myself, Subra Ganesan (Finance Committee Chair) or Ramesh S (treasurer) as soon as possible. An updated version, based on inputs from the ExCom, will be considered at the December ExCom meeting. A Final Budget will be presented and approved shortly thereafter.

Clarion Call:
Issuing one final call. All those chapters who need a little assistance in getting their tech activities fulfilled for the year, do get in touch with us ASAP!

And, our editors threw in their monthly interesting history of technology & science stuff. If you know of others who are celebrating any sort of anniversary – do let me know.

Holidays:
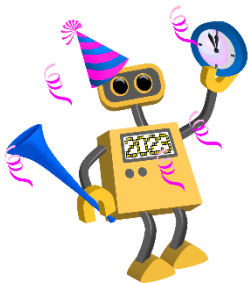
A new year and a new beginning, here is wishing all of you a prosperous and joyous new year 2023!. In many ways, Professionally, Personally and through IEEE, we are creating the future of humanity.

I look forward to hearing from you and seeing you at our events. As always, your ideas and suggestions are encouraged and welcome.
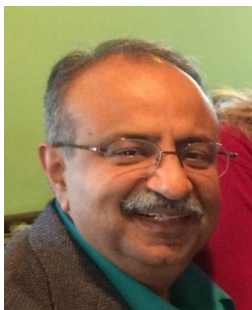
Sharan Kalwani
Via email: chair@ieee-sem.org
Section members are encouraged to engage using <u>any</u> of these online platforms:

Technical Activities Report

2022 IEEE SE Michigan Section Geo-unit Status (Till Dec 22nd)

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	11	3	1	0	1	0	Consultants Network	0	2
LIFE	0	0	0	0	2	0	Life Members	1	2
WIE	15	3	3	12	0	1	Women In Engineering	0	16
YP	62	1	1	0	0	0	Young Professionals	0	1
1	40	1	4	2	0	0	Circuits & Systems, Signal Proc., Info Th.	2	6
2	30	7	8	1	0	0	Vehicular Technology	0	9
3	51	16	2	0	0	0	Aerospace & Elec. Sys., Communications	0	2
4	35	8	4	0	0	0	Trident (Ant, Elect Dev., uWave, Photo)	0	4
5	26	5	45	9	6	1	Computers	0	61
6	48	32	2	2	1	0	Geoscience & Remote Sensing	0	5
7	52	10	5	7	0	0	Power Engineering, Industrial App.	0	12
8	52	31	12	12	0	1	Electromagnetic Compatibility (EMC)	1	25
9	27	11	4	1	0	0	Power Electronics, Industrial Electronics	0	5
10	6	2	2	0	0	0	Engineering Management	0	2
11	29	19	2	2	0	0	Eng. in Medicine & Biology	0	4
12	20	11	3	0	0	0	Control Systems	0	3
13	22	6	20	4	1	1	Education	0	26
14	7	4	2	0	0	0	Robotics & Automation	0	2
15	42	21	9	0	0	0	Nuclear Plasma Science Society	0	9
16	35	9	4	1	0	0	Computational Intelligence / Sys.Man.Cyber.	0	5
17	14	0	2	0	0	0	Nano Technology Council	0	2
SEM	38	10	5	31	3	0	SEM (Section)	0	39
	661	208	140	84	14	4	NOTE: Highlight Green = Active	4	242
		32%					NOTE: Highlight clear = Concern		

Kudos to our Section GAs meeting or exceeding our Section technical and administrative 2022 meeting and activity goals. Thank you to our TAcom team and special thanks to our Section Chair, Sharan Kalwani for personally aiding in getting our GAs to develop, host, and report their events.

Your TAcom stands ready to provide help and support to SEM chapters and groups needing assistance in meeting IEEE and SEM Section goals. Please continue to encourage your member participation and discussions related to the vast amounts of technical and engineering challenges facing our world.

Time to take a pause and enjoy the Holiday season!
V/r
Jeffery V. Mosley
TAcom Chairman
jvmosley@ieee.org

Attention: Students!

Attention: Opportunity for IEEE SEM Students to become Co-Authors!

Engineering students interested in co-authoring a technical paper in one of the IEEE journals are invited to contact Mike Anthony (maanthon@umich.edu). Mike will be delighted to explain the IEEE paper development and publishing process. Since most engineering students are proficient in web searches, in collaboration with Mike, potential student authors can do either of the following in getting their name tracking in the IEEE bibliography; thereby strengthening the foundation of their careers.

1) Identify an active author in any of the topics in the IEEE power engineering domain and develop a plan for contributing to the research of that author. Mike will arrange introductions.

2) Identify a topic of the student's interest and guide them through the basics of IEEE paper development as a sole author.

3) Assist Mike in his own power engineering research by preparing a bibliographic paper to be published in the Industrial Applications Society or Power Engineering Society Journal. An example line of inquiry would be to identify key concepts in the *2023 National Electrical Safety Code,* the *2023 National Electrical Code* and the *2023 IEEE 1547 Standard for Interconnecting Distributed Resources with Electric Power Systems.* Each of these titles are essential standards for the emergent smart grid and have undergone revisions in the past year.

Mike administers the IEEE Education & Healthcare Facilities Commitee which meets 4 times each month. You are welcome to join any of the conference calls or simply send him an email at the address above.

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Officer Training:

2023 in Southeastern Michigan Section will present our members, and especially our officers, with a series of virtual training classes to be held on Saturday mornings from 9 AM ~ 11:30 AM. The first class will take place on Saturday 1/7/2023.

The classes will focus on the tools needed to guide an IEEE Geo-unit (Affinity Group, Technical Chapter, Student Branch or HKN Chapter) to a successful year with lots of interesting activities for all your members.

The listing of the focus of each class is shown below:

vTools	Theme: Communications
Collabratec	Theme: Communications
Leadership	Focus: Chair
Leadership	Focus: V-Chair
Leadership	Focus: Secretary
Leadership	Focus: Treasurer
Leadership	Extended Team Focus: Ethics
Coordination	Extended Team Focus: Other vTools (to be announced)

At first glance, it would seem that a two-hour block each week to handle just those topics would be massive overkill. However, let me expand on the details of only the first topic, vTools. Some (not all) of the vTools to be discussed include:

- «« IEEE Membership Validator
- «« vTools eNotice
- «« vTools Events
- «« vTools Officer Reporting
- «« vTools Student Branch Reporting
- » Doodle
- » IEEE OU Analytics
- » WebEx Request Form

These 8 topics allow for just 15 minutes for each, with a little time for Q&A, and some may require more time than we have set aside. (And this sub-set of topics is only 8 of the 18 total listed in the vTools site.) . But not all topics will require the same amount of instructional treatment.

Our intention is to also record the training sessions, perhaps as small 10 minute or less bites and place them in the SEM Website / About SEM / Training and replace some of the older, outmoded earlier topics in that location. **https://r4.ieee.org/sem/about-sem/training/**

The link to the site where we will conduct training, along with the calendar invitation will be sent to the entire membership. Our hope is that members interested in leadership training and/or learning some of the 'Soft Skills' we often talk about as being critical to a successful engineering career.

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Foundations:

Faraday, Maxwell and Heaviside

The end of the 19th century and the beginning of the 20th century saw many dramatic changes in our understanding of the natural world, and three key figures ushered in the basic elements of that awareness resulting in the wide spread of electricity, magnetism and electronics effecting our lives in ways previous generations would have deemed 'magical'.

These three men:
Michael Faraday (22 September 1791 – 25 August 1867)
James Clerk Maxwell (13 June 1831 – 5 November 1879)
Oliver Heaviside (18 May 1850 – 3 February 1925)
…together built the basis for all electrical and electronic engineering as we understand it today.

Michael Faraday laid the conceptual foundation for electromagnetic theory and all that followed.
But no matter how clearly presented, Faraday's concepts lacked a supporting mathematical structure to provide the interlocking framework upon which further advancements could be based. Thankfully young James Clerk Maxwell became absorbed in Faraday's results and became convinced that there was an underlying connection between electricity and magnetism. However, just as Faraday's work consisted of a number of independent pieces, Maxwell' initial efforts resulted in a number of independent mathematical proofs. Twenty-four independent equations and a significant number of interlocking relationships between them. It took fortitude to wade through the material and follow Maxwell's conclusions to find the links.

We are fortunate that a young, self-taught genius mathematician named **Oliver Heaviside** also became intrigued with the implications of Faraday's concepts and with Maxwell's analysis. Heaviside's interest in Maxwell's work resulted in his development of Vector Calculus, and the reduction of the 24 equations describing electricity and magnetism to the four inter-locking vector equations we now use to understand how electromagnetic fields interact and propagate.

Several months ago (January 2022), here in our Section we presented a video of the life of Maxwell
Scotland's Einstein: James Clerk Maxwell (BBC Documentary)
https://events.vtools.ieee.org/m/286356
Which incidentally was shared (or co-hosted by several chapters outside of our section,: a great example of section co-operation) or you can catch it again at https://events.vtools.ieee.org/m/337726 (OR for those who are impatient: https://www.youtube.com/watch?v=jqWDzGVmOU4)

If you missed this presentation (as mentioned above, it is being done again in 2023 – you can *also* check the Section web site calendar) feel free to book mark it, either way I urge you to watch it and marvel at two aspects:

1. How few people realize or understand what Maxwell's work did for mankind, and
2. How much Maxwell contributed to so many advances in science.

Much of the later technology advancements, although based on Maxwell's work, might never have come about if Heaviside had not intervened and given us a clearer view. Along the way Heaviside also gave us the Telegrapher's Equation and developed the loading coil which enabled rapid trans-Atlantic messages using the undersea telegraph cables. Also credited with that invention of the coaxial cable, and discovery of the phenomenon of permittivity in insulating materials, Heaviside conceived of the interaction between the earth's rotating magnetic field and the charged particles making up to Solar wind as the cause of the Aurora Borealis or Northern Lights. He extended this conception to predict a layer of charged particles in the upper atmosphere which we now use to refract radio waves in the HF (Hight Frequency) bands to allow signals to circumnavigate the planet.

Oliver Heaviside did so much to help us all take the next steps into the electronic age, that I hope some other enterprising videographer will someday take the time to give us a documentary similar to the one on Maxwell mentioned above.

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SKN:

Straight Key Night: (SKN)
For more than 40 years, ARRL (American Radio Relay League) Straight Key Night has long been the favorite event of many amateurs. Always on New Year's Eve and Day, Straight Key Night gives hams a chance to return to the time when Amateur Radio was just a bit simpler -- a time when a straight key or an old bug, along with a basic transceiver, was all that was needed to communicate around the world. In fact, that's still all that is needed. Keep the CW paddle or computer keyboard on the shelf this night and send CW the way it's been sent since the beginning.
https://www.arrl.org/

Straight Key Night is not a contest: no score is kept, no prizes are awarded, no fast exchanges of information are required. It's a chance to get on the air and make some leisurely QSOs. This event is about the enjoyment of radio at its most basic and provides an excellent opportunity for all amateurs to return to our roots, proving that simpler is sometimes better.

Many Amateur Radio events are accompanied by 'awards'. Longest distance communications. Lowest power over the longest distance. 'Worked' (established 2 way communications with another 'Ham') in all 50 states, SOTA (Summits on the air), or POTA (Parks on the air) for 'activating' that location.

(Activating involves setting up portable equipment, in a remote location, and establishing at least 10 contacts.), Worked 100 countries, etc.. The list is a long one. However, SKN (Straight Key Night) is unique.

Straight Key Night 'awards' are for 'The most enjoyable conversation (QSO) on the air'. And 'The most readable 'fist'. Everyone sending Morse code (CW) with a straight key has a unique and recognizable cadence and timing to their sending. Telegraphers (and Hams) call that the operator's 'Fist'. The better the sending, the better the 'fist'. Hand sent Morse code is clearly different than that sent by computer generated code programs, and most agree hand sent code is more pleasant to listen to.
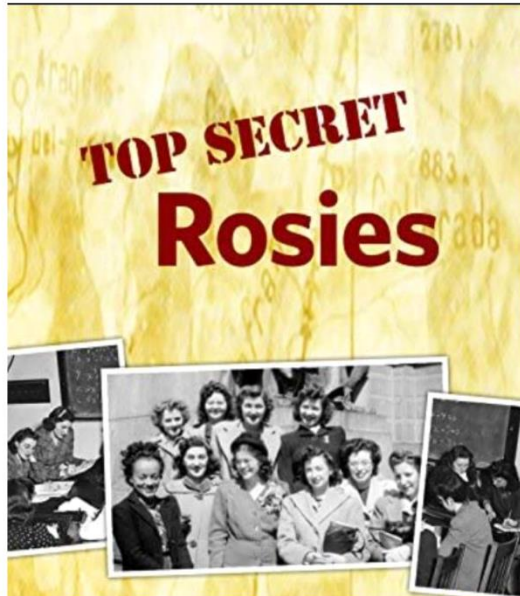
Given the number of alternative methods of sending messages via radio waves (Amplitude Modulation AM, Frequency Modulation FM, Single Side Band SSB, and others - all using the human voice), at least 16 computer programs sending 'digital' data directly computer to computer, often operating 'below the noise floor'. *(Dr. Nyquist would be delighted.)* Still communicating using Morse code (Radio's first language) remains and the number of its practitioners continue to grow.

The Long Island CW Club, a ZOOM based organization of radio amateurs who felt that teaching Morse code over ZOOM on the internet would be an interesting experiment. Now they number 3,340 members in 50 states and 47 countries around the world. They teach 77 classes a week and include 4 classes each week for kids K-12.
https://longislandcwclub.org/

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Top Secret Rosies

IEEE Southeastern Michigan
Presents:

Top Secret Rosies: The Female "Computers" of WW II

IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

At Glance

- **When:**
  Date: Jan 20th, 2023
  Time: 05:30 – 7:00 PM
  (EST/EDT)

- **Where:**
  Online via Webex (to be shared only after you have a confirmed registration)

- **Audience: OPEN to ALL***

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IEEE
Southeastern
Education Society
Technical
Chapter

The film is focused on recognizing the contributions of women during WW II, serving as human computers and six of whom went on to program one of the earliest computers, the ENIAC. Their work helped the United States improve the accuracy of weaponry as most conducted ballistics analysis. The film officially premiered on November 1, 2010 on PBS.

*Pre-Registration Required!

https://events.vtools.ieee.org/m/338377

IEEE Education Society

IEEE Advancing Technology for Humanity

IEEE Southeastern Michigan Section

This Month in January

Or: I Did Not Know This! ☺

January 1, 1983 – The ARPANET officially changes to using the Internet Protocol, creating the Internet.
January 1, 1984 – The original American Telephone & Telegraph Company is divested of its 22 Bell System companies as a result of the settlement of the 1974 United States Department of Justice antitrust suit against AT&T.
January 1, 1878 – Birth of Agner Krarup Erlang, Danish mathematician, statistician, and engineer (d. 1929)
January 1,1951 – Radia Perlman, American software designer and network engineer, is born

January 2, 1938 – Date of Birth for Lynn Conway, American computer scientist and electrical engineer
January 2, 1920 – Birthday of Isaac Asimov, Russian-American chemist, author, and academic (d. 1992)

January 6, 1931 – Thomas Edison signs his last patent application.

Jan 7, 1827 – Sandford Fleming, Scottish-Canadian engineer, created Universal Standard Time (d. 1915)
Jan 7, 1943 – Nikola Tesla, Serbian-American physicist and engineer passes away (b. 1856)

Jan 11, 1923 – Carroll Shelby, American race car driver, engineer, and businessman, founded Carroll Shelby International (d. 2012)
Jan 11, 1954 – Kailash Satyarthi, Indian engineer, academic, and activist, Nobel Prize laureate is born

Jan 12, 1822 – Étienne Lenoir, Belgian engineer, designed the internal combustion engine (d. 1900)
Jan 12, 2001 – Death of William Redington Hewlett, American engineer and businessman, who co-founded Hewlett-Packard (b. 1913)

Jan 18, 1933 – Ray Dolby, American engineer and businessman, founded Dolby Laboratories (d. 2013)

Jan 19, 1736 – Date of birth of James Watt, Scottish-English chemist and engineer (d. 1819)

Jan 19, 1813 – Born on this day was Henry Bessemer, English engineer and businessman (d. 1898)

Jan 21, 1901 – Elisha Gray, American engineer, who co-founded Western Electric passes away (b. 1835)
Jan 24, 1966 – Homi Jehangir Bhabha, father of the Indian Nuclear industry, dies in a plane crash
Jan 26, 1885 – Birth of Harry Ricardo, English engineer and academic (d. 1974)
Jan 26, 1891 – Nikolaus Otto, German engineer, invented the Internal combustion engine passes away (b. 1833)

Jan 30, 1948 – Orville Wright, American pilot and engineer, co-founded the Wright Company dies (b. 1871)
Jan 30, 1951 – Death of Ferdinand Porsche, Austrian-German engineer and businessman, founded Porsche (b. 1875)
Jan 30, 1991 – John Bardeen, American physicist and engineer, Nobel Prize laureate passes away (b. 1908)

Jan 31, 1954 – Edwin Howard Armstrong, American engineer, who invented FM radio passes away (b. 1890)

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
Just one of the Editors, Wavelengths,
2022-2023 Chair, Southeastern Michigan Section
Passionate Engineering History Buff/Aficionado

Vice-Chair Elect Profile

Aneesh Mathai is a Senior Member of IEEE and is the 2023 Vice Chair Elect for the Southeastern Michigan section. From 2018 November, he has been serving as the Secretary for the Technical Activities Committee (TACom) in the Southeastern Michigan section. From the last 4+ years, Aneesh maintains the Section Geo-Unit status report for the TAC and also provides it for publication in the monthly Wavelengths newsletter. Aneesh has been an IEEE member for 22 years and his initial activities were at Bangalore section, serving as secretary of IEEE GOLD (now called YP or Young Professionals) in 2001.

Professionally, Aneesh is a Product Engineer at Ford Motor Company, responsible for Automotive Infotainment and Driver Information Systems. He has 25+ years of experience in Real-Time embedded systems and software, on Automotive Infotainment and Driver Information System (Instrument Cluster, HUD) Software development and Architecture. In-Vehicle networking is one of his areas of interest. Aneesh previously worked with several Automotive Tier-1 suppliers - Harman International, Robert Bosch and Delphi Automotive Systems (now known as Aptiv) and CG-Smith (now called KPIT). He has also done software development of products for global automotive OEMs - Ford, GM, Jaguar Land Rover, Volvo, Mercedes Benz, Harley Davidson etc. He has international experience working in USA, Germany, and India. Aneesh holds a Bachelor's degree in Electronics Engineering from the Cochin University of Science and Technology.

Personally, Aneesh is married to Smitha and has a 13 year old daughter Anjali studying 8th grade at Novi Middle School. Aneesh was born in Kerala, India and lived in Trivandrum/Kochi/Bangalore area in India, in the Stuttgart area, Germany. Since 2012 he has been in Michigan, USA.

RoboFest News

(1) 2023 Final Kickoff Meeting (Updated Time)
(2) MCWT $750 Grants for All-Girl Robofest Teams in Michigan
(3) Pre-season Workshop Schedule
(4) Warmup Competition/Judge Training February 11
(5) Robofest Pen Pal Opportunity
(6) LTU Scholarship Opportunity for all Robofest Participants
(7) Seeking Site Hosts for 2023 Competitions
Note: All times are listed in EST unless noted

(1) 2023 Final Kickoff Meeting (Updated Time)
Our final kickoff meeting to review 2023 Official Game Rules General Rules and other category rules for clarification prior to the final release in will be held Saturday, January 7, 2023: 11:30 am ~ 1:00 pm EST (note the change in time) in the Robofest Lab on LTU campus (J234 in Building 8 on the LTU Campus Map https://www.ltu.edu/ltu/map.asp)

and Zoom. https://ltu.zoom.us/j/91826219837?pwd=cnEwaXFsRyt1UGhLNldBQytTdGJVdz09

(2) MCWT $750 Grants for All-Girl Robofest Teams in Michigan
The Michigan Council of Women in Technology Foundation, 19-year sponsor of Robofest, has increased their grant funding for the 2023 Robofest season, providing $750 grants for up to ten Michigan all-girl Robofest Game and Exhibition teams. The application is open now and the deadline to apply is March 15, 2023.

More information and the 2023 season application are posted on the MCWT webpage: https://mcwt.org/programs/list/K-12-Initiatives/ROBOTICS-GRANTS

(3) Pre-season Workshop Schedule
Robofest Workshops are available at no cost to registered 2023 Teams. They are held in the Robofest Lab on LTU Campus, robots and laptops are provided. Recordings can be requested if teams cannot travel to LTU.

      VEX IQ with VEX Code
      Saturday, 1/14/23: 9:00 am ~ 12:00 noon
      Saturday, 2/25/23: 1:00 pm ~ 4:00 pm

      LEGO EV3 with Scratch
      Saturday, 1/14/23: 1:00 pm ~ 4:00 pm
      Saturday, 1/28/23: 9:00 am ~ 12:00 noon

      LEGO Spike Prime with Scratch
      Saturday, 1/28/23: 9:00 am ~ 12:00 noon

      LEGO Spike Prime with Python
      Saturday, 2/25/23: 1:00 pm ~ 4:00 pm

To register for a workshop first register for a qualifier (pre-registration is open), the go to
https://www.robofest.net/rms/SharedPagesServlet?cmd=getWorkshopsTable

(4) Warmup Competition/Judge Training February 11
This event will be held on Saturday, Feb 11, 2023 from 1:00 pm ~ 4:30 pm in Room J234 in the Taubman Complex. Teams who would like to participate should send an email to spalonis@ltu.edu. Check-in for registered teams begins at 1:00 pm and Judge training will start at 1:30 pm. We encourage Michigan Site Hosts and Volunteer Game Judges to attend. Registration will open in Mid-January for judges.

(5) Robofest Pen Pal Opportunity
To enhance the Spirit of Robofest for all participants, we would like to facilitate a new Pen Pal program. We will pair up interested individuals or teams with one another so they may collaborate and build international network opportunities. Registration is open through the form: https://docs.google.com/forms/d/e/1FAIpQLSdsEMe5QZER0foK-VJs1rTWbDNMAYuVyTvrpemibQT01RpTeQ/viewform?usp=sharing

(6) LTU Scholarship Opportunity for all Robofest Participants
High School students who have participated in Robofest at any time and who are planning to attend LTU in any program, can apply for a $3,000 renewable scholarship (Total of $12,000). Submit a 400-word essay describing your Robofest experience and your career goals, a letter of recommendation from one of your Robofest adult coaches or mentors, and the Scholarship Application by April 1, 2023. To find more information visit: https://www.ltu.edu/financial_aid/scholarships-freshmen.asp

(7) Seeking Site Hosts for 2023 Competitions
Robofest will be accepting site hosts applications for the 2023 Competition Season for Robofest Game and Exhibition Qualifiers as well as BottleSumo and RoboParade Open events for the 2023 season until January 31, 2023. Interested individuals, organizations, or schools should contact the Robofest office at spalonis@ltu.edu or visit https://robofest.net/index.php/for-site-hosts
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Lawrence Technological University / Robofest / J-233 / 21000 W. Ten Mile Rd, Southfield, MI 48075
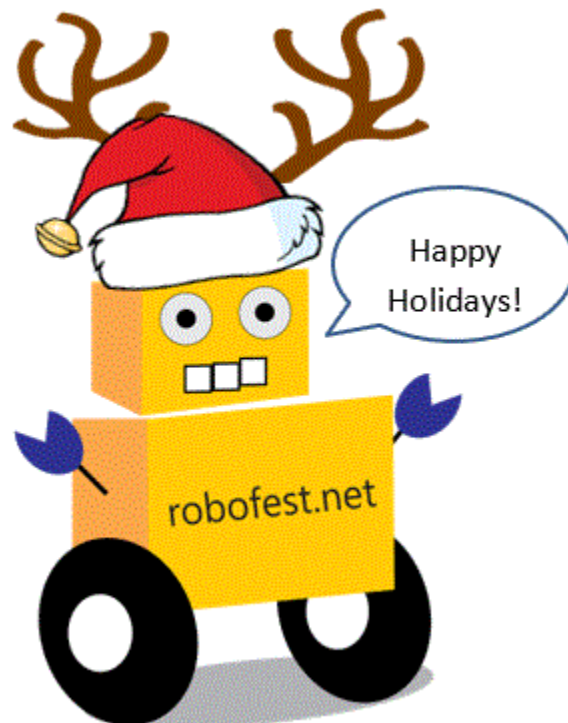Dr. Christopher Cartwright, Director, ccartwrig@ltu.edu
Elmer Santos, Assistant Director, esantos@ltu.edu
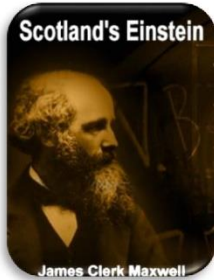Shannan Palonis, Coordinator, spalonis@ltu.edu
Pam Sparks, Coordinator, psparks@ltu.edu
Dr. CJ Chung, Advisory Board Chairperson (Volunteer), cchung@ltu.edu

James Maxwell

IEEE Southeastern Michigan
Presents A Video Documentary on
The Life of James Clerk Maxwell

James Clerk Maxwell is responsible for many of things that dominate the modern world. He is the man who inspired Albert Einstein and Maxwell's discoveries helped in the development of electricity, radio, television and so much more. Many physicists regard Maxwell as the 19th-century scientist having the greatest influence on 20th-century physics. His contributions to the science are considered by many to be of the same magnitude as those of Isaac Newton and Albert Einstein. Despite this Maxwell remains largely unknown to the general mainstream population.

He used his genius to work across a wide range of subjects in the 19th century - astronomy, physiology, color, optics, thermodynamics, electricity, and magnetism - and changed many of them to the next level.

Running time: 59 minutes

At Glance

- **When:**
  Date: January 13th, 2023
  Time: 05:30 – 7:00 PM (EST/EDT)

- **Where:**
  Online via Webex (to be shared only after you have a confirmed registration)

- **Audience: OPEN to ALL***

Sponsored by IEEE Southeastern Michigan Education Society Technical Chapter

*Pre-Registration Required!

https://events.vtools.ieee.org/m/337726

Future City

2023 IEEE Judging for the Future City Competition
By Don Bramlett, SMIEEE

This is the 23rd year that the IEEE-SEM Section will have provided a dedicated team of judges and a special professional organization award, the "Electrotechnology Award" for the project having the most innovative application of electrotechnology in the design of the city in the future at the Michigan Regional Future City Competition. This is one of the premier pre-university STEM programs for energized middle school students. The Future City Competition in 2023 has the overarching theme of "Climate Change."

The competition and judging will return to an in-person format again this year, as opposed to a virtual format as for the last two years. The student teams still have to prepare an essay and a model of a part of the city, as part of the competition. The student teams will also make presentations to teams of judges Monday January 23, 2023 at the Suburban Collection Showplace on Grand River in Novi. The IEEE-SEM Section sponsored "Electrotechnology Award" will be presented to the selected school that afternoon.

A continental breakfast for judges will start at 7:45 am, orientation for judges will start at 8:15 am, initial judging of student projects will start at 9:00 am, judging is to be completed by 11:00 am, and lunch will be served at 11:00 am. The activity for judges will only take half a day. Awards will be presented to the student teams starting at 2:00 pm
IEEE-SEM members wishing to participate on the IEEE-SEM team of judges should contact Don Bramlett at d.bramlett@ieee.org or 313-608-6223.

Section Conference

IEEE Southeastern Michigan Spring Conference ◆IEEE

Theme: *Powering the Future of Engineering*

Topics planned are:

Electric Vehicles, Connected Vehicles,

Areas of Electrical/Electronics/Computer Engineering & Science

Keynote Presentations, Student Poster, Recruitment, Social Networking,

Section Activity, Dinner, Awards, Chapters Collaboration

Event Date: March 28th, Tuesday, 2023 4 to 8 pm

Venue: Lawrence Technological University, Michigan

Save the Date
March 28th, Tuesday, 2023

Contact: conference@ieee-sem.org   https://events.vtools.ieee.org/m/328899

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 Society
Chapter: 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
```

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!

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.

Review of 2022

Time to reflect on 2022……..

At the moment you are reading this, 2022 should be over and a bright new year will have commenced. So, this is a good opportunity to look back on all the successes, bask a little bit and also learn from what did not work so well, and make plans to improve upon them.

First the parts of 2022 that I think a lot of us enjoyed. Several chapters initiated a lot of tech activities, full kudos to them. I'm proud to say that the section at its level has done a lot to support them. And we also achieved a major milestone, every technical chapter was able to do at least 2 tech events, part of the MGA requirements to maintain vitality and ensure continued support & funding. Event eh Affinity groups (except for just 1) was also able to hit their targets. I will be sure to high light this fact at the Region 4 meeting in Chicago, which takes place at the end of January 2023.

Early in the year, EMC chapter 8 rejuvenated its annual EMCFest and exceeded expectations. The Embedded Systems Workshop – held annually by the Computer Society Technical Chapter (aka Chapter 5) hit a major landmark of 20 such events. You can read their annual report in the February 2023 issue.

Also a few chapters ran a ton of video streaming events, both historical and educational in nature, thus boosting our members knowledge, entertainment, and appreciation for our various professions. I would like to mention many of these screenings, some of which will be repeated in 2023. The list was as follows:

1) The life of James Clerk Maxwell
2) Celebrating Hedy Lamarr: Icon, Immigrant, Inventor
3) The Bit Player *(An IEEE Foundation funded documentary)* about the life of Claude Shannon – aka the Father of the Information Age
4) Coded Bias
5) Divine Discontent: The Life of Charles Proteus Steinmetz (A*lso an IEEE Foundation funded documentary)*
6) Nikola Tesla – Visionary or Madman?
7) Predictions by the Numbers
8) Revolution OS *(The story of Linux)*
9) Revenge of the Electric Car
10) Code Rush: The Story of Netscape (Mozilla) and serious start of open source
11) Silicon Valley – Documentary
12) Top Secret Rosies: The Female 'Computers' of WW 2
13) The Drake Equation *(screened in memory of Frank Drake, who passed away in September 2022)*
14) The Ultimate Space Telescope *(All about the James Webb infra red)*
15) Engineering Pioneer: Frank Sprague *(Also an IEEE Foundation funded documentary)*

That is indeed an astounding list. I am given to understand there are a few more news ones we can expect to view in 2023. We received several compliments from fellow IEEE members in our Section and beyond, appreciating these screenings and also sharing with them.

Beyond that, the Section also conducted various professional activities, all designed to add as well as enhance the non-technical skills of our members. These were:

1) Introduction to Agile Methodology (a hot skill I may add these days)
2) How to do Root Cause Analysis (always a worthwhile skill no matter what your profession) and
3) Critical Thinking (new one for 2022)

In addition, we had scheduled another oft requested PACE event – namely 'Leadership Skills', however it had to be postponed in 2022, due to circumstances beyond our control. Of course, we will plan on repeating many of the above, for those who missed it and will also schedule a few new skills as well. For example: Project Management Basics, etc. ***Your suggestions are invited!***
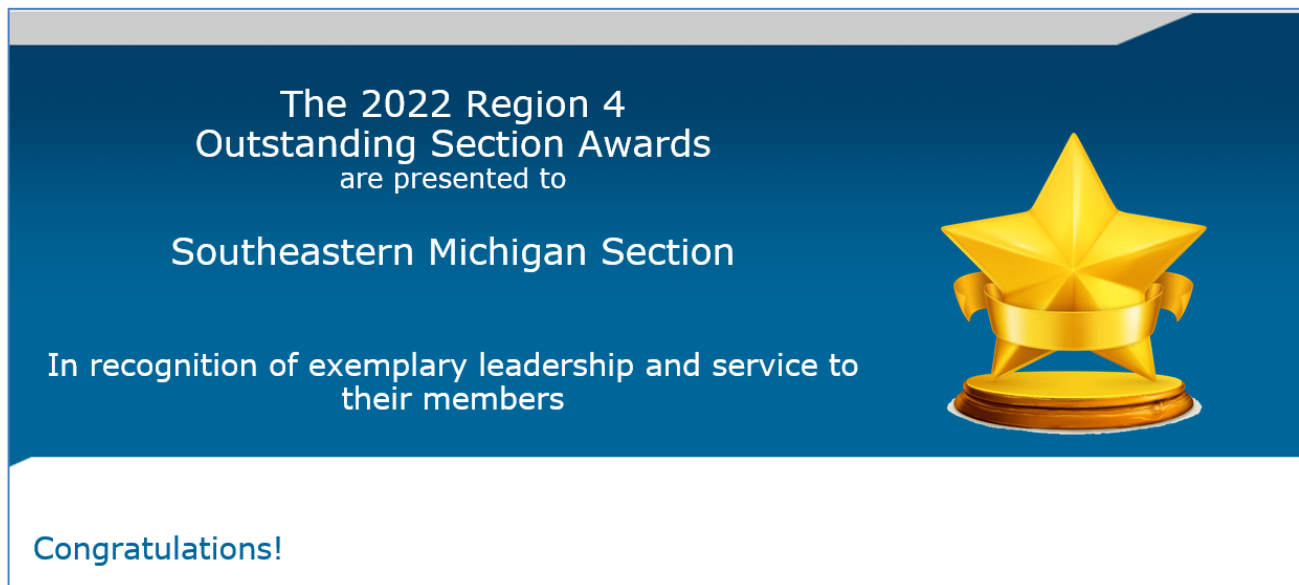
We did not forget our dear student members either! A very popular one was:

✓ How to write an Effective Research Paper

Another area being seriously considered is: "How to choose a good research topic". And I may add the presenter plans to visit Michigan sometime – so we may not only have a repeat but a live session as well, so you can interact in person with even more questions and get even better answers! Stay tuned for both!

The 2022 Region 4
Membership Retention Awards
are presented to

Southeastern Michigan Section

In recognition of exceeding 2022 membership retention goals

Congratulations!

On the membership development front, we were recognized by IEEE-MGA with the Gold Award, for high retention and new member recruitment, the national USA level. Not only that but…_within Region 4_ (Michigan, Illinois, Iowa, Indiana, Wisconsin, Minnesota, Nebraska, North and South Dakota) we were recognized for member retention and recruitment as well. That is indeed a great honor to be recognized and the credit goes to **all of our Southeastern Michigan community** for assisting in both direct and subtle ways towards this goal/achievement. Be sure to let our MD chair know that this is appreciated. (Getting two awards is always awesome and serves as an inspiration for future IEEE members).

The 2022 Region 4
Outstanding Section Awards
are presented to

Southeastern Michigan Section

In recognition of exemplary leadership and service to their members

Congratulations!

I would like to also share another major success story, in conjunction with the membership retention Gold Award. We were also recognized by the IEEE Region 4 with the 'Outstanding Section' Award (large section category or more than 1500 members). FYI: the other large sections in IEEE Region 4 are: Chicago, Fox Valley Subsection + Northwest Subsection (both large suburban areas of Chicago) Twin Cities, Milwaukee, Central Indiana + Central Illinois (the latter two clearly much larger physical geographic areas than us).

Rounding off 2022, I wanted to point out the huge number of technical activities conducted in our section – a total of 144! That is almost 3 per week (or 2.76923077 average to be precise!) considering the holidays and vacations. Indeed, that is one of the prime reasons we were recognized as an outstanding section. <u>We do more for our member than any other section</u> (for example Chicago by comparison did only 119 tech events, even though they have a much bigger population that ours).
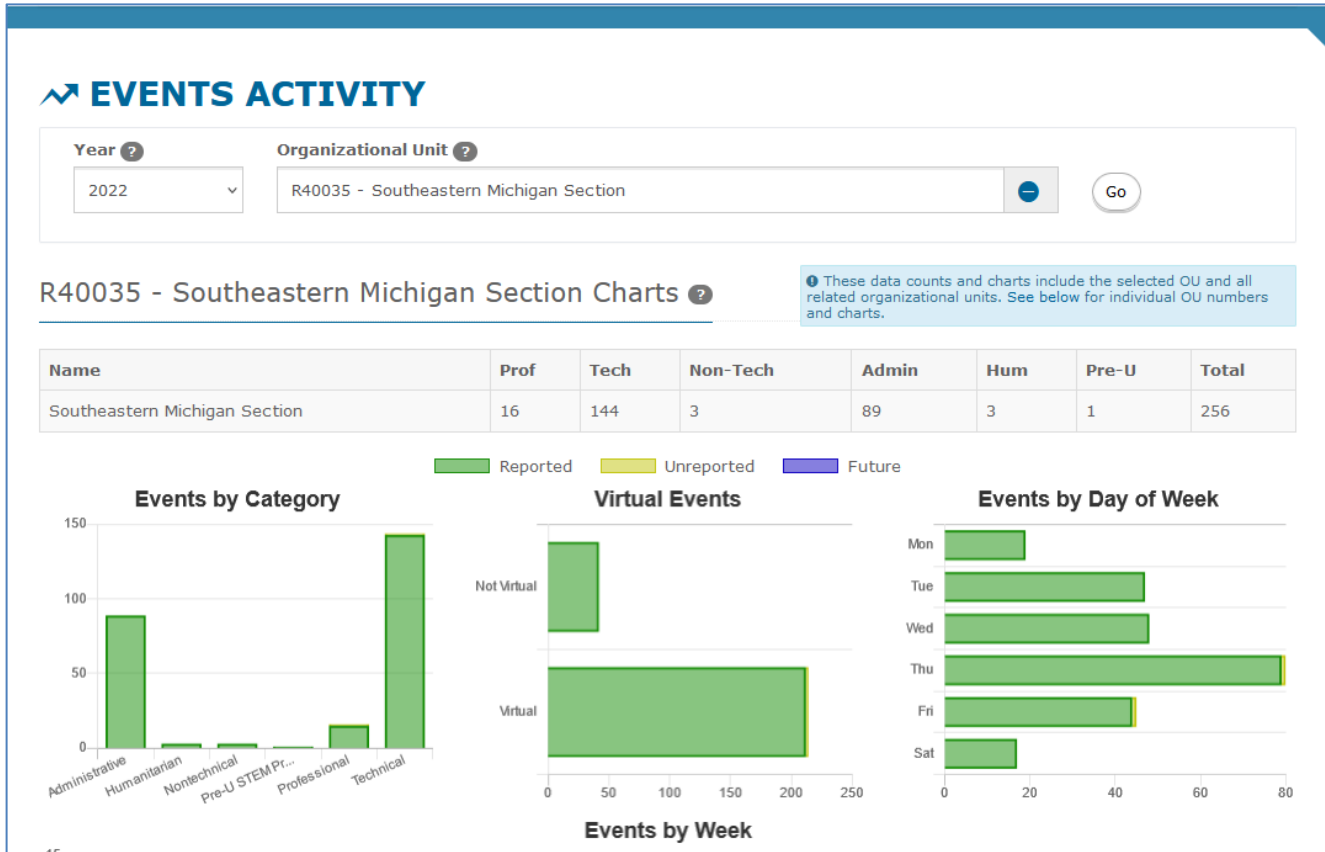
Sharan Kalwani
2022-2023 Chair, Southeastern Michigan Section
Email: chair@ieee-sem.org

Looking Forward to 2023!

Time to look at 2023!

So, in what areas can we improve in? Well, for one I think we should hold more non-technical events, such as social activities. I look forward once again to summer picnics, dinner events, ice cream socials and museum tours. I encourage all of the 2023 chapter and affinity group chairs to work with their executive committee admins and direct membership to plan and conduct these. You have our support.

I am also informed that several new documentaries are scheduled in 2023. A few of these are: *"Zero to Infinity", "Codebreaker", "Women of ENIAC", "General Magic"* and many more….

Beyond that we are also reaching out to several other technical professional societies in the Southeastern Michigan area and planning joint events with them (e.g., NSBE – National Society of Black Engineers, etc.).

I personally plan to boost our student branch outreach activities – similar to our tech society chapter efforts and get them on board. Your personal and alumni contacts will be ***most appreciated in this regard***.

I take this opportunity to wish you all a happy 2023 new year!

Sharan Kalwani
2022-2023 Chair, Southeastern Michigan Section
Email: chair@ieee-sem.org
Passionate IEEE Supporter

However you celebrate,
we celebrate with you

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

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/eaa/eaa-chapters/find-an-eaa-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 SEM Executive Committee is the primary coordination unit for Southeastern Michigan (SEM) IEEE operations. The basic organization chart below shows the 2019/2020/2021/2022 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 (soon to be refreshed!)
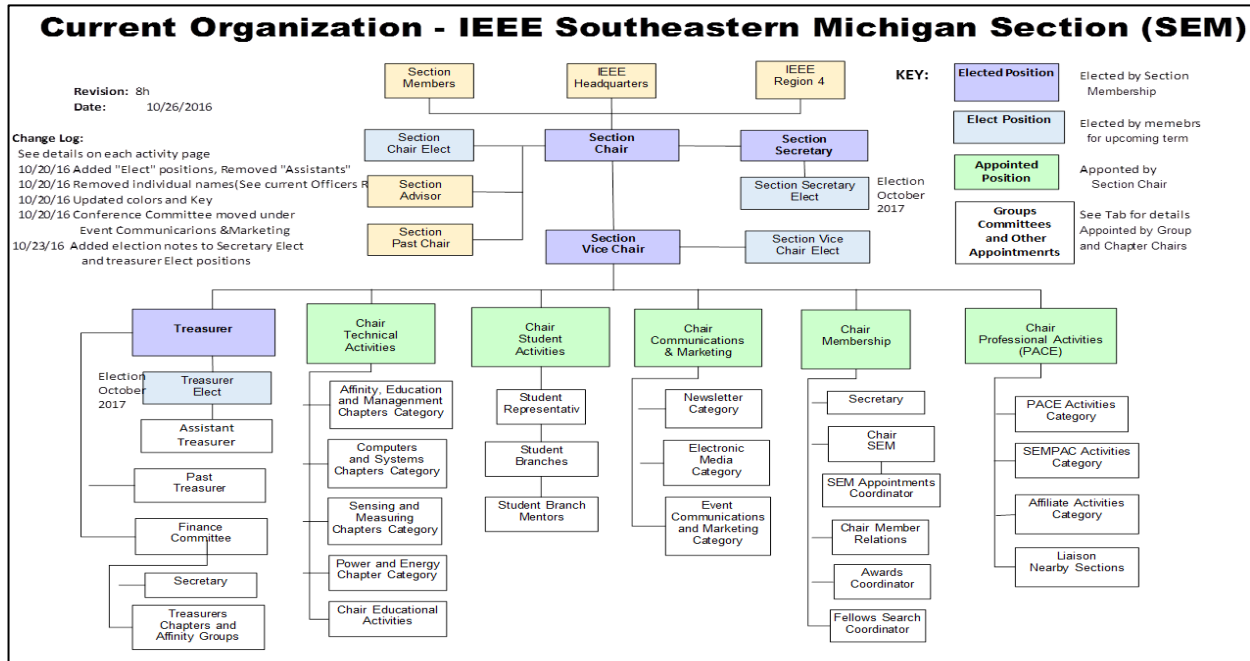
ExCom Meeting Schedule

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:

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**.

ExCom Meeting (all clickable links)	Date & Time
SEM Section ExCom Monthly Meetings (TELECONFERENCE) For January 2023	**12 Jan 2023 6:30 PM**
SEM Section ExCom Monthly Meeting (virtual) For FEBRUARY 2023	9 Feb 2023 6:30 PM
SEM Section ExCom Monthly Meeting (virtual) For MARCH 2023	9 Mar 2023 6:30 PM
SEM Section ExCom Monthly Meeting (virtual) For APRIL 2023	13 Apr 6:30 PM
SEM Section ExCom Monthly Meeting (virtual) For MAY 2023	11 May 6:30 PM
SEM Section ExCom Monthly Meeting (virtual) For JUNE 2023	8 Jun 6:30 PM
SEM Section ExCom Monthly Meeting (virtual) For JULY 2023	13 Jul 6:30 PM
SEM Section ExCom Monthly Meeting (virtual) For AUGUST 2023	10 Aug 6:30 PM
SEM Section ExCom Monthly Meeting (virtual) For SEPTEMBER 2023	14 Sep 6:30 PM
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

Title	Date
SEM Section ExCom Monthly Meeting (virtual) For JA...	12 Jan 202...
SEM Section ExCom Monthly Meeting (virtual) For FE...	09 Feb 202...
SEM Section ExCom Monthly Meeting (virtual) For MA...	09 Mar 202...
SEM Section ExCom Monthly Meeting (virtual) For AP...	13 Apr 202...
SEM Section ExCom Monthly Meeting (virtual) For MA...	11 May 202...
SEM Section ExCom Monthly Meeting (virtual) For JU...	08 Jun 202...
SEM Section ExCom Monthly Meeting (virtual) For JUL...	13 Jul 2023...
SEM Section ExCom Monthly Meeting (virtual) For AU...	10 Aug 202...
SEM Section ExCom Monthly Meeting (virtual) For SE...	14 Sep 202...
SEM Section ExCom Monthly Meeting (virtual) For OC...	12 Oct 202...
SEM Section ExCom Monthly Meeting (virtual) For NO...	09 Nov 202...
SEM Section ExCom Monthly Meeting (virtual) For DE...	14 Dec 202...

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
d.romanchik@ieee.org
nilesh.dudhaia@ieee.org
k.williams@ieee.org
cgjohnson@ieee.org
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		

IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

Web & Social Sites

SEM Website
http://r4.ieee.org/sem/

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

Section Website Event Calendar
(Select the "SEM Calendar" button - top row)

SEM Facebook Page
(Select the " f " button under the top row)
https://www.facebook.com/groups/ieeesemich

SEM LinkedIn Page
(Select the " in " 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://ieee-collabratec.ieee.org/app/workspaces/5979/IEEE-Southeastern-Michigan-Section/activities

SEM Officers:
For a complete listing of all - Section - Standing Committee - Affinity Group - Chapter and Student Branch Officers, see the SEM Officers Roster on the SEM web page under the "About SEM" button and select "Organization Roster"

Section Officers

Section Chair
Sharan Kalwani

Section Vice-Chair
Mohammad Berri

Section Secretary
Chris Johnson

Section Treasurer
Ramesh Sethu

Standing Committees:

Section Adviser
Don Bramlett

Wavelengths Editor
Sharan Kalwani

Chair Educational
Christopher Guirlanda

Chair Finance Committee
Subra Ganesan

Chair Membership Development
Mohamad Berri

Chair Nominations & Appointments
Kimball Williams

Chair PACE
Sharan Kalwani

Chair Student Activities
Mel Chi

Student Communications Coordinator
Michael Anthony

Student Representative
Mohd Faisal

Chair Technical Activities
Jeffery Mosley

IEEE Southeastern Michigan

Visit Us on the Web at:
http://r4.ieee.org/sem

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