

Wavelengths



Volume 62 – Issue 03

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Upcoming Events

We have several events coming up this month. Listed below are some of the events, FYI.

Event	Date	Time
MOVIE NIGHT=> "The Bit Player"	02 Mar 2022	06:00 PM
SEM Section ExCom Monthly Meeting (TELECONFERENCE) for March 2022	03 Mar 2022	06:30 PM
MOVIE NIGHT=> Coded Bias	04 Mar 2022	04:00 PM
MOVIE NIGHT=> Charles Steinmetz	08 Mar 2022	06:00 PM
Z-pinch Research at UC San Diego	09 Mar 2022	03:30 PM
Intelligent Vehicles and Transportation Systems	09 Mar 2022	04:30 PM
Ch8: AdCom Teleconference	10 Mar 2022	11:00 AM
MOVIE NIGHT=> Nikola Tesla	10 Mar 2022	06:00 PM
Sparking A Curious Mind	15 Mar 2022	06:00 PM
EMC Society Monthly tech Meeting	17 Mar 2022	05:30 PM
SusTech Talk- Nuclear Energy as a viable electric baseload supply option	22 Mar 2022	06:00 PM
Plasma Irregularities in the Earth’s Ionosphere and Plasmasphere	23 Mar 2022	03:30 PM

Note: All times are EST/EDT. If any events are missed do kindly bring them to the attention of wavelengths@ieee-sem.org. Thank you!

Chair's Column

This is the third column I am now sharing with all of the IEEE Southeastern Michigan community. We have launched a number of activities in order to bring value to our members (and that includes students!). Last month, we have initiated a review of our website (<https://r4.ieee.org/sem/>) freshened things up a lot. A major new item – which we have seen in the past – is often new and sometimes existing members ask – how can I contact the chair or who is the treasurer or secretary etc.? Going forward, to ensure business continuity, we are creating email aliases, so one need not try to remember or hunt for the contact information! Thus, one use the following:



- 📖 Chair is chair@ieee-sem.org
- 📖 Vice Chair is vicechair@ieee-sem.org
- 📖 Treasurer is treasurer@ieee-sem.org
- 📖 Secretary is secretary@ieee-sem.org!

By the way All of our social media sites are as follows:

- ✓ Facebook ~ <https://www.facebook.com/groups/ieeesemich>
- ✓ LinkedIn ~ <https://www.linkedin.com/groups/1766687/>
- ✓ Twitter ~ <https://www.twitter.com/ieeesemich>

Which are receiving continuous updates as much as possible given the time we have as volunteers. I would like to encourage all our members to consider **volunteering** to the role of our social media moderators, which is easy to do, and we would be happy to show you're the ropes. Essentially it involves noticing articles of EE technical interest and sharing it on those sites. Of course, our Section events take top priority 😊! Feel free to reach out to any of the section officers and connect so we can put you in touch with the right people.

Upcoming events in our region are plenty. Chief amongst them are all the online documentaries – they are all worth the time as we learn something new! (see the flyers on pages 8,9,12 &13 in this issue). National Engineers Week was celebrated in the last week of February. They have a number of scholarships for students. You will receive an email on this separately from me (remind me if you DO NOT receive it!).

We are also lucky to have two distinguished talks this month: both from our community! Yi Lu Murphey (see page 5) and Barb Oakley (page 6). Do check them out! I am also happy to introduce the new leadership of WiE (see page 17).

On January 13th we held our first ExCom meeting. Minutes at the moment are on the shared google drive, which was sent to all via the listserv. We are working on getting it published to Collabratec. During the new officers training, I gave a talk on how to use it (video recording links will be shared in the next edition of Wavelengths *and* on the web site *and* on Collabratec as well). Collabratec (<https://ieee-collabratec.ieee.org/>) – which is far more easier to navigate, offers lots of choices, is better integrated with your IEEE membership profile, and is monitored by IEEE folks, so you can search IEEE resources and connect with fellow members at the same time, w/o having to switch platforms. We even have our own Southeastern Michigan Workspace there! (See [LINK](#)). However, workspace is slightly different than community space. The former is geared towards *section specific activity*, whereas the latter is more *general in nature*. There is a community space called "Detroit" which has over 3000 members and will be publishing our events there as well!

The next ExCom meeting is on the 3rd of March, you will get reminders from me and Christopher Johnson as well. I would love to hear from everyone, the full list of ExCom meetings and their links has been published. I also plan to reach out to all the Student branches and re-engage them with our Section. In these days of pandemic restrictions, it is important NOT to lose touch with our past, current, future potential members and remain engaged w/ our community!

Sharan Kalwani

Via email: sharan dot kalwani At IEEE dot org

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



Technical Activities Report

2022 IEEE SE Michigan Section Geo-unit Status (Till Feb 28th)									
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	0	0	Consultants Network	0	0
LIFE	0	0	0	0	0	0	Life Members	0	0
WIE	0	0	0	1	0	0	Women In Engineering	0	1
YP	0	0	0	0	0	0	Young Professionals	0	0
1	0	0	0	0	0	0	Circuits & Systems, Signal Proc., Info Th.	0	0
2	0	0	0	0	0	0	Vehicular Technology	0	0
3	0	0	0	0	0	0	Aerospace & Elec. Sys., Communications	0	0
4	0	0	0	0	0	0	Trident (Ant, Elect Dev., uWave, Photo)	0	0
5	26	10	6	1	0	1	Computers	0	8
6	0	0	0	0	0	0	Geoscience & Remote Sensing	0	0
7	0	0	0	2	0	0	Power Engineering, Industrial App.	0	2
8	42	21	2	2	0	1	Electromagnetic Compatibility (EMC)	0	5
9	58	10	1	0	0	0	Power Electronics, Industrial Electronics	0	1
10	0	0	0	0	0	0	Engineering Management	2	0
11	55	37	1	0	0	0	Eng. in Medicine & Biology	0	1
12	0	0	0	0	0	0	Control Systems	0	0
13	13	5	5	0	0	1	Education	0	6
14	0	0	0	0	0	0	Robotics & Automation	0	0
15	45	29	2	0	0	0	Nuclear Plasma Science Society	0	2
16	0	0	0	0	0	0	Computational Intelligence / Sys.Man.Cyber.	0	0
17	0	0	0	0	0	0	Nano Technology Council	0	0
SEM	0	0	0	3	0	0	SEM (Section)	3	3
Tot	239	112	17	9	0	3	NOTE: Highlight Green = Active	5	29
		47%					NOTE: Highlight clear = Concern		

The monthly Section Health report now includes columns representing the numbers of Unreported Meetings see Column I, (#Unreported) as well as Total Meetings Column J see (Total Mtgs) for each GA. GA leaders are requested to review the report and clarify any unreported meeting activity by either submitting the appropriate L31 status report or by contacting the undersigned for assistance.

Our Section receives funds to support our technical meetings as a result of the reported meetings from our GAs. Let's start this year as strong as possible, by getting our meeting reports into the system. Remember that our technical chapters and societies can request Section funds for snacks and beverages etc. in support of live meetings. Please contact our Section Treasurer or myself

Please endeavor to engage your group membership by: 1. Meeting live or virtually to discuss IEEE presentations or other technical content germane to your group; 2. Invite members or outside speakers to present relevant technical achievements and or issues; and 3. Collaborate with other GAs on relevant joint technical topics of interest via webinar. These are just a few suggestions to maintain healthy technical interchanges within our Section. Your Technical Activities Committee (TACom) stands ready to assist as needed. Stay well and stay safe.

Jeff Mosley
 Chair, Technical Activities Committee, R4 IEEE SE Michigan, jvmosley@ieee.org

2022 IAS Annual meeting



Invitation Message for 2022 IAS Annual Meeting

Dear Electrical Colleagues:

We are excited to invite your attendance and participation at the IEEE's 57th IAS Annual Meeting to be held October 9-13, 2022. The conference will be in Detroit, Michigan USA.

The IAS Annual Meeting has established a long tradition of providing a platform for practicing engineers, researchers, and technical experts to present and discuss current developments and future trends in applications of electrical technology to fields such as electrical standards, industrial and commercial power systems, data centers, process controls, robotics and automation, electrostatics, mining, metals, smart grid, smart cities, and smart manufacturing.

Our conference venue and meeting space will be at the world-class Detroit convention center, which has been newly renamed as "Huntington Place". City of Detroit is known for being historical birthplace of the modern automobile industry. Our IAS Annual Meeting will be co-located with the 2022 Energy Conversion Congress and Exposition (ECCE). IAS Annual Meeting delegates are invited to attend some selected ECCE activities, such as the Monday Plenary Session and the ECCE Technical Expo, which are open to attendees from both conferences. With such a great setting for our two conferences, there will be ample opportunities for attendees to enjoy social events and networking amongst other engineers, industry folks, academic faculty, and of course students.

Our "Call for Papers" with deadline dates has been posted on our conference website at: <https://ias.ieee.org/2022annualmeeting/call-for-papers.html> It incorporates a "Call for Tutorials" as well. And for more general information regarding the overall conference, please visit the conference website at: <https://ias.ieee.org/2022annualmeeting>

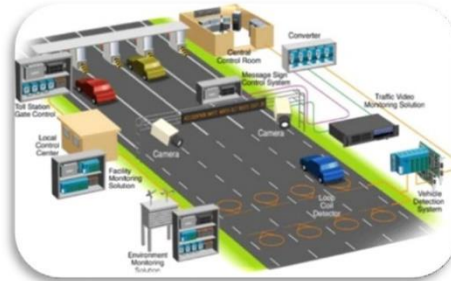
On behalf of the entire conference organizing committee, we look forward to your participation in the 2022 IAS Annual Meeting!

Sincerely,

David Eng
General Chair, IAS AM-2022
Email: engdd412@ieee.org

Intelligent Vehicles Distinguished Talk

IEEE SE Michigan CS & CIS/SMC Society Chapters
Presents:
Intelligent Vehicles and Transportation Systems



Nearly every facet of our society is undergoing a shift of connecting the individuals to the community. The “Internet of Things” movement is giving great power to the individuals, by personalizing information that is time and location-aware. In the broad transportation community, building on the momentum and success of prior and current research, two primary areas have been identified as the forefront of ITS (Intelligent Transportation Systems) research, Connected and Automated Vehicles (CAV). In this talk, I will first talk about the research challenges and opportunities in intelligent vehicle and transportation systems, and present three related research projects, accurate prediction of traffic flow using neural networks, personalized driving route prediction based on V2I communication and neural learning, and remote vehicle trajectory detection and prediction based on V2V communication data using geometric modeling and neural networks.

Speaker:
 Yi Lu Murphey,
 Distinguished Lecturer Computational Intelligence Society
 Professor, Department of ECE, University of Michigan-Dearborn

At Glance

- **When:**
 Date: March 9th, 2022
 Time: 04:30 – 5:30 PM (EST/EDT)
- **Where:**
 Online via Webex (to be shared only after you have a confirmed registration)
- **Audience: OPEN to ALL***

Sponsored by
IEEE
SE Michigan
Computer Society,
Joint CIS/SMC Society,
Vehicle Tech Society
 &
Signals/Circuits Society
Chapters

***Pre-Registration Required!**

<https://events.vtools.ieee.org/m/300758>



IEEE Southeastern Michigan Section

Sparking a Curious Mind

IEEE SE Michigan Computer Society Chapter

Presents:

Sparking A Curious Mind



Professor of Engineering Barbara Oakley is the instructor of Learning How to Learn (Coursera), one of the world’s largest MOOCs, with over four million students. In this presentation, she will show you useful information about how you and those you work with can more easily master new and difficult material—and establish an even richer learning culture for those you work with.

- See what the patterns of expertise look like in the brain and learn how to build those patterns more quickly and with less frustration.
- Learn why it’s perfectly normal to not understand something difficult the first time its encountered. You’ll see how knowledge of how the brain works cannot protect against feelings of frustration and failure when something seems difficult to learn.
- Discover simple tools to tackle procrastination.
- Learn how to handle interruptions in your learning, and why small periods of mindlessness can be so valuable in learning.
- Learn the surprising advantages of having a bad memory and sometimes being a slower learner.

Speaker short Bio:

Barbara Oakley, PhD, PE is a Distinguished Professor of Engineering at Oakland University in Rochester, Michigan.

At Glance

- **When:**
Date: March 15th, 2022
Time: 06:00 – 7:30 PM (EST/EDT)
- **Where:**
Online via Webex (to be shared only after you have a confirmed registration)
- **Audience: OPEN to ALL***

*Sponsored by
IEEE
SE Michigan
Computer Society
Chapter*

***Pre-Registration Required!**

<https://events.vtools.ieee.org/m/306061>



IEEE Southeastern Michigan Section

Officers 2022

Elections for our 2022 officers was an ‘interesting’ event in late 2021. We have all experienced the effects of a long term global pandemic with its restrictions, economic and personal disruptions, adjusting to business and work environments and business and personal communications that have, of necessity, become dominated by virtual media. Our interactions which once were personal and face-to-face have been required to step back and become ‘distant’.

Several years ago, elections for our Section officers were conducted at our late fall Section Conference using a paper ballot passed out to all present members, and the counting was done that evening so we all knew who the primary officers were to be for the coming year. New officer training took place at a common meeting hall, with multiple speakers addressing newly elected members in their duties.

Now, many of us may have never met our current officers face-to-face, and unless we are very fortunate, it may not happen for a long time. However, monthly ZOOM and WebEx meetings which allow us all to see each other on our computer screens and the convenience of being able to attend many meetings without the necessity of driving to a distant location have given us all opportunities that were unthinkable a few months past.

All IEEE members are always invited to attend any IEEE meeting at any time. (You do need to register, of course.) This is especially true of ‘local’ meetings which are advertised in the Wavelengths newsletter, on the Section website, in Section wide eNotices, and email messages from our local Geo-units (Chapters and Affinity Groups).

The contact information for individual officers for our Section as a whole may be found in the ‘Organization Roster’ which is available as a downloadable PDF file on the SEM Website. If you do not know how to find the SEM Website, you may download the Roster directly using the link below:

https://r4.ieee.org/sem/wp-content/uploads/sites/6/2022/02/New_Organization_Roster_1.22.2022_Rev2.pdf

An example of the information that can be found in the ‘Roster’ is shown below for one of our technical chapters:

Southeastern Michigan Section	Officers Name	Access Code	e-mail
Industrial Electronics and Power Electronics: Ch9		CH04057	
<i>Chair</i>	Van Wagner		wagner6@gmail.com
<i>V-Ch</i>			
<i>Director(IndElect)</i>			
<i>Director(Pwr Elect)</i>			
<i>Secretary</i>	Shanelle Foster		hogansha@egr.msu.edu
<i>Treasurer</i>			
<i>Past-Ch</i>			

For 2022 we have made a few ‘adjustments’ to the roster which we hope will help our members more easily identify which organizations they either belong to or wish to join. The old Chapter numbers have been ‘adjusted’ by placing the identification of the supporting technical Societies first and moving the Chapter numbers to the end of the name line. We have added the vTools ID code for each Geo-unit to help officers when working within the IEEE vTools system.

For general access, the officer’s position, name and contact email are still present and present our most reliable method of contacting the officers. When you need information about the Section, use the roster.

Claude Shannon Movie

**IEEE Computer Society Chapter
Presents
"The Bit Player: Claude Shannon
Father of the Information Age"**



- Date:** March 2nd, 2022
- Time:** 6 PM to 7:00 PM
- Where:**

Online via Webex

Considered the founding father of the electronic communication age, Claude Shannon's work ushered in the Digital Revolution. This fascinating program explores his life and the major influence his work had on today's digital world through interviews with his friends and colleagues.

Documentary Summary: *One of Michigan's famous sons, but not many Michiganders know about him. You will get a refresher on the impact Claude Elmwood Shannon made on the world today. This documentary was made in 2018 and brought to you by the IEEE Foundation who partially funded this along with the IEEE Information Theory Society..*

... Sponsored by
**IEEE Computer
Society Chapter**

All Students,
Members,
Professionals and
Industry Techs
are welcome!

Pre-Registration Required! Go to
<https://events.vtools.ieee.org/m/295725>

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Electrical and Electronic Engineers Creating Our Future

Coded Bias Documentary

IEEE Computer Society Chapter Presents:

"Coded Bias"



- Date:** March 4th, 2022
- Time:** 4 PM to 6:00 PM
- Where:**

Online via Webex

Documentary Summary: *When MIT Media Lab researcher Joy Buolamwini discovers that most facial-recognition software misidentifies women and darker-skinned faces, she is compelled to investigate further. It turns out that AI, which was defined by a homogeneous group of men, is not neutral. What Buolamwini learns about widespread bias in algorithms drives her to push the US government to create the first-ever legislation to counter the far-reaching dangers of bias in a technology that is steadily encroaching on our lives.*

Centering on the voices of women leading the charge to ensure our civil rights are protected, Coded Bias asks 2 key questions: what is the impact of AI's increasing role in governing our liberties? And, what are the consequences for people stuck in the crosshairs due to their race, color, and gender?

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Member News



It is with great pleasure that we would like to share with all of our IEEE Southeastern Michigan community – that one of our own – Professor Khalid Malik (w/ Oakland University) – recently awarded \$92,500 by the Michigan Translational Research and Commercialization (MTRAC) Innovation Hub for Advanced Computing. for his work on an Anti-Deep Fake technology and Deep Forgery Detector, which incorporates Deep Learning, Knowledge Graphs, and Natural Language Processing (NLP) technologies to detect visual deepfakes, as well as voice cloning.

Feel free to email Khalid and connect with him, if you would like to keep on top of this news/research and by the way he is still hiring for graduate research assistants and faculty as well! The news was shared via on the Oakland University News <https://oakland.edu/oumagazine/news/SECS/2022/ou-professor-receives-funding-for-work-on-anti-deep-fake-technology> .

Oakland University Professor Khalid Malik has been awarded \$92,500 by the Michigan Translational Research and Commercialization (MTRAC) Innovation Hub for Advanced Computing for his work on an Anti-Deep Fake technology and Deep Forgery Detector, which incorporates Deep Learning, Knowledge Graphs, and Natural Language Processing (NLP) technologies to detect visual deepfakes, as well as voice cloning.

"This funding will be quite helpful to take our current research work funded by the National Science Foundation to the next level," said Malik, an associate professor in the Department of Computer Science and Engineering at Oakland University. "Particularly, it will help us to focus more on translational aspects of our research."

Dr. Malik's project aims to develop a unified tool, a Deep Forgery Detector (DFD), to detect various audio-visual forgeries, including various types of deepfakes, that are used in the manipulation and/or falsification of digital multimedia.

"The value proposition of DFD development is its interdisciplinary approach that cuts across multiple areas: cyber security, Machine/Deep Learning, NLP, Knowledge Graphs, etc.," Malik said. "This will provide a high impact across broad areas of forensic examination of multimedia evidence."

The project was one of four selected by the MTRAC Innovation Hub for Advanced Computing and the Michigan Economic Development Corporation (MEDC) to receive a combined \$370,000 in funding awarded to researchers from Oakland University, Michigan Technological University, and Northern Michigan University. The projects aim to tackle Deep Tech opportunities in high impact sectors, such as Anti-Deep Fake technology, AI-based decision support, and next generation computing.



"We are excited to see impressive disruptive innovations and participation from so many Michigan universities for the third year of the program," said Edward Kim, program director of MTRAC Innovation Hub for Advanced Computing. "The third cohort awardees are the proof that Deep Tech research are thriving in every Michigan research institution.

"The MTRAC Advanced Computing Innovation Hub is proud to be the earliest lab-to-market support platform dedicated for the innovators tackling some of the world's greatest challenges," Kim added.

Researchers presented their proposals to an oversight committee composed of leading technologists, successful tech entrepreneurs, industry partners and venture capitalists with a track record of commercializing and investing in frontier technologies. In addition to funding, the researchers will receive valuable mentorship support from the committee members as their projects progress toward commercialization.

"Although a significant amount of research is focused on deep tech innovations, additional capital and support for innovators are needed to help accelerate commercialization of these impressive technologies in Michigan," said Doug Neal, managing director and co-founder of eLab Ventures and an oversight committee member.

"Working on transformative frontier technology requires risk taking and collaboration," Neal said. "I applaud the MEDC and MTRAC Innovation Hub for Advanced Computing for providing very early-stage de-risking funds as well as a platform to foster collaboration across multiple sectors and industries."

The four projects funded by the hub focus on transformational innovations that have the potential to bring disruptive solutions to the market in their respective fields. In addition to Dr. Malik's work, funded projects include:

- A novel cooling technology that can deliver 2-3x cooling capacity for high powered CPUs and GPUs that enable AI and other Deep Tech innovations.
- An algorithm based on evolutionary computation that can evaluate every possible outcome in parallel to minimize substrate material waste.
- An AI-based noncontact sensing technology called Super-Resolution Acoustic Imaging (SURE-AI). The innovation can detect micro-defects in critical structures such as aircraft, bridges, and wind turbines.

"We are committed to fostering talent and technology commercialization within our state at the research level by creating collaboration opportunities that ultimately strengthen our entrepreneurial ecosystem and put Michigan at the forefront of the innovative technologies market," said Denise Graves, university relations director at the MEDC. "While these research projects are still in their early stages, they show great promise. The funds and mentorship they receive from the MTRAC program are an important step to take these projects from concept to commercialization."

Curated by

Sharan Kalwani,
Co-Editor, Wavelengths,
2017~2018~2019~2020~2021~2022
Email: Sharan.Kalwani@ieee.org

Charles Steinmetz Documentary

**IEEE Computer Society Chapter
Presents
"Divine Discontent:
The life of Charles Proteus Steinmetz"**



- Date:** March 8th, 2022
- Time:** 6 PM to 7:00 PM
- Where:**

Online via Webex

Documentary Summary: *This documentary/movie will look at the life and contributions of one of the most celebrated Engineers and inventors, Charles Proteus Steinmetz. Dr. Steinmetz was a legendary figure in his time inside and outside of GE. He was a Chief Consulting Engineer, a Professor at Union College, a Community Activist, and a family man. We will relive his path from a small town in Prussia to New York and his great accomplishments in Science, Engineering, Education, and contributions to Society.*

Running time is approximately 55 minutes. This documentary is brought to you by the SE Michigan CS chapter and the IEEE Foundation who partially funded this.

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IEEE
Southeastern
Michigan

Electrical and Electronic Engineers Creating Our Future

Nikola Tesla Documentary

IEEE Computer Society Chapter Presents

"Nikola Tesla: Visionary or Madman?"



- Date:** March 10th, 2022
- Time:** 6 PM to 7:00 PM
- Where:**

Online via Webex

Documentary Summary: Meet Nikola Tesla, the genius engineer and tireless inventor whose technology revolutionized the electrical age of the 20th century. Regarded by many historians as an eccentric genius, Tesla gained international fame for his invention of a system of alternating current that made possible the distribution of electricity over vast distances and is the basis for the electrical grid that powers 21st century life. But the visionary Tesla imagined much more — robots, radio, radar, remote control, the wireless transmission of messages and pictures, and harnessing the wind and sun to provide free energy to all. His fertile but undisciplined imagination was the source of his genius but also his downfall, as the image of Tesla as a “mad scientist” came to overshadow his reputation as a brilliant innovator. Even before his death in 1943, he was largely forgotten, his name obscured by Thomas Edison — his hero, one-time employer, and rival.

All Students,
Members,
Professionals and
Industry Techs
are welcome!*

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Electrical and Electronic Engineers Creating Our Future

Need Science Fair Judges!

IEEE-SEM MEMBERS NEEDED AS 2022 SCIENCE FAIR JUDGES

By Don C. Bramlett, LSMIEEE, FMSPE, FESD

Please volunteer to serve on the elite panel of judges for the **professional awards** being sponsored by the Southeastern Michigan Section of the Institute of Electrical and Electronics Engineer, Inc. (IEEE-SEM) at the 65th Annual Science and Engineering Fair of Metropolitan Detroit (SEFMD). This is the 27th straight year that the IEEE-SEM Section has provided judges and sponsored **professional awards** for projects associated with electrical, electronics, computer engineering and IEEE related fields.

The Science Fair and judging will again be conducted in a virtual manner. Students will provide a project presentation (up to 12 pages in a pdf format) and a short video link. There will be no interviews for the **professional awards**. The Science Fair and I will communicate further details to those that will be IEEE judges. Session 1 judging, which includes **professional awards** judging, will be completed prior to March 25, 2022.

It is necessary that if you are already registered as a Science Fair judge or a new judge, to go to the Science Fair website: <https://www.sefmd.org>

Judging: *Identify you will be judging as part of the IEEE **professional awards** judging team during Session 1. Also provide the information for a background check with the Michigan State Police. Inform me if you are registered to be an IEEE **professional awards** judge, at d.bramlett@ieee.org*

Like last year, IEEE-SEM plans to provide judging for both the Junior (6th – 8th grade) Division and the Senior (High School) Division. IEEE-SEM will tentatively make three Grand Awards, including personalized certificates and cash prizes, and several Outstanding Achievement Awards, consisting of personalized certificates.

This year, like last year, some projects in the IEEE related fields may be found in the categories of Systems Software, Robotics & Intelligent Machines, Physics & Astronomy, Environmental Engineering, Engineering Mechanics, Energy: Physical, Energy: Chemical, Embedded Systems, etc. Students in Wayne, Oakland, Macomb, Lenawee, Livingston, Monroe, and Washtenaw counties will participate in the Science Fair. So, this year again will be a real interesting experience judging the Junior Division and Senior Division projects.

Based on the number and quality of the selected project displays, the judges may choose to use the supplied Project Evaluation and Judging Forms to grade the projects in each Division or to use a less formalized process, as deemed appropriate.

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

ORG UNITS cheat sheet

Section Unit Name or Affinity Group or Chapter Name (Organizational Unit 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

Section Unit Name or Affinity Group or Chapter Name (Organizational Unit 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)

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 SE Michigan Education Society Chapter
Vice-Chair, IEEE SE Michigan Computer Society Chapter
Editor, Wavelengths,
2018~2019~2020~2021~2022

Profile: WiE

Who we are: IEEE-Southeastern Michigan Woman in Engineering (SEM-WIE) affinity's vision is to support and encourage women to pursue careers in the field of science and engineering through outreach activities such as conferences, technical and networking sessions, collaborative projects and meetings.

Meet our Leadership:**Chair: Gozde Tutuncuoglu**

Dr. Gozde Tutuncuoglu is an Assistant Professor in the Department of Electrical and Computer Engineering at Wayne State University. She holds a Ph.D. degree from Ecole Polytechnique Federale de Lausanne (EPFL) in Switzerland. Dr. Tutuncuoglu conducts research on nanoelectronics and novel computing devices, in particular on neuromorphic computing. In her free time, she likes to read and travel.

**Vice-Chair: Ashfiqua Connie**

Ashfiqua Connie received her Ph. D degree in Electrical and Computer Engineering from McGill University, Montreal, Canada. She is currently working as an instructor in the Pre-Engineering department of Henry Ford College. In her free time she likes to read, travel, and spend quality time with her family.

**Secretary: Colleen Chmielewski**

Colleen Chmielewski obtained her Bachelors degree in Civil Engineering from Michigan Tech in May 2009. She is a Senior Engineer at ExecuPOWER and has worked on numerous transmission line projects since starting her career in June 2009. Colleen actively participates in and is on the Board of Directors at her local Kiwanis Club of Jackson. She is also chair of the IEEE Power and Energy Insulated Conductor Committee Women in Power group. When not working or volunteering she enjoys spending quality time with her husband and son, traveling to her family's cottage on Lake Superior, walking the beach, searching for agates, hiking, saunas, swimming and watching movies.

**Webmaster: Bige Deniz Unluturk**

Bige Deniz Unluturk received her PhD Degree from Georgia Institute of Technology in 2020. She is currently an assistant professor in Electrical & Computer Engineering and Biomedical Engineering at Michigan State University. She is also a member of the Institute of Quantitative Health Science and Engineering at MSU. She is also the publicity chair of IEEE Communications Society Women in Communications Engineering. In her free time she likes travelling, dancing, and spending time with friends and family.

What we did last year: We planned to collaborate with Fordson High School, Dearborn, MI. Our initial plan was to have multiple sessions with the school to encourage students to choose STEM based careers. However, due to the pandemic, the school informed us that they were not ready to host such events last year. Additionally, we organized a networking event in December, 2021.

What we plan for 2022: As K-12 level institutes and universities are going back to in-person teaching, we are excited to continue planning our collaboration with the high schools to encourage STEM education. In the near future, we will also be organizing networking and technical sessions.

Invitation: We are always looking for volunteers who are passionate about supporting women professionals in engineering and science. You can also check out our website to know more about us: <https://r4.ieee.org/sem-wie/about-us/> Feel free to reach out to ashfiqua.connie@gmail.com or gozde@wayne.edu for any questions.

RoboFest Update

Robofest eNewsletter 02-02-22

- (1) Robofest Online World Championship Dates and Formats
- (2) Warmup Competition/Judge Training February 12
- (3) Robofest Beginner Workshops
- (4) 2022 Robofest Rules Finalized and Registration is Open
- (5) Mentors looking for Teams in Plymouth-Canton, MI
- (6) [LTU Robofest Scholarship Opportunity](#)

Note: All times are listed in EST unless noted

(1) Robofest Online World Championship Dates and Formats

The Robofest Online World Championship Game and Exhibition Finals and two of the Open Categories will be hosted through an online synchronous format with the following schedule:

ROWC OPEN CATEGORY	DATE
Sr UMC	Fri Apr 8
Jr UMC	Sat Apr 9
Sr Bottle Sumo Time Trials	Fri Apr 22
Jr Bottle Sumo Time Trials	Sat Apr 23

ROWC FINALS	DATE
Sr Exhibition Finals	Fri Apr 29
Jr Exhibition Finals	Sat Apr 30
Sr Game Finals	Fri May 13
Jr Game Finals	Sat May 14

RoboArts, RoboMed, and RoboParade will be hosted by video submission (due May 6). Registration for all of the Open Category events will open on March 1. The ROWC Award Ceremony will be hosted on Saturday, May 21.

(2) Warmup Competition/Judge Training February 12 at 1:00 pm at LTU

This in-person event is scheduled on Saturday, Feb 12, 2022 from 1:00pm ~ 4:30pm in Room J234 in the Taubman Complex. We invite and encourage all Michigan Site Hosts and Volunteer Game Judges to attend. Registration for judges is open <https://bit.ly/349vzCD>. Check-in for registered teams begins at 1:00 pm and Judge training will start at 1:15 pm

(3) Robofest Beginner Workshops

The remaining 2022 Robofest Beginner workshops are listed below. These will be held in-person in the Computer Science Robotics Lab on LTU Campus. Registration is free, but teams must be registered and paid for a qualifier. (Qualifier pre-registration is available)

Sat, Mar 12, 9:00am ~ Noon: **LEGO Spike Prime / Robot Inventor with Scratch**

Sat, Mar 12, 1:00pm ~ 4:00pm: **VEX IQ with VEXcode**

Sat, Mar 19, 9:00am ~ Noon: **LEGO Spike Prime / Robot Inventor with Python**

Registration is open. To register your students, select **Available Workshops** on the left menu of the registration page on Robofest.net.

If you cannot attend the workshops, all the workshop materials are available on the **eAcademy/Workshop** page on the Robofest.net website. We encourage coaches to share the workshop material with their teams and contact us if you have any questions. We can set up a tutoring session for your team if desired.

(4) 2022 Robofest Rules Finalized and Registration is Open

The 2022 General and Category rules have been modified slightly to add clarifications and FAQs. The updated versions have posted to the Robofest.net website. Click on the **Get Involved** tab and select either the **2022 Main Page** or specific category.

US and International Sites are still being finalized, but many of the sites are now open for team registration.

(5) Mentors looking for Teams in Plymouth-Canton, MI

Do you have a Robofest team in need of mentorship? A group of Middle School and High School robotics students/competitors in the Plymouth Canton Community School district would like to offer their time and expertise to local Robofest teams. The students are district, state, and world champions in the FIRST Robotics Competition students are proficient in several different programming languages and algorithmic thinking, perfect for the style of LEGO Mindstorms coding that is present in Robofest. If you are interested in connecting with a student mentor for your Robofest team, please send an email to Shannan Palonis (spalonis@ltu.edu) with the subject line “Mentor Wanted” along with your contact information and we will forward it to the group.

(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, 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, 2022**. To find more information visit: https://www.ltu.edu/financial_aid/scholarships-freshmen.asp

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, cchung@ltu.edu

<https://www.robofest.net/>

<https://facebook.com/robofest>

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: You may need to copy the URL and paste it into your browser address bar.**

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 2021-2022 academic year:

https://mipse.umich.edu/seminars_2122.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/ea/eaa-chapters/find-an-eaa-chapter>

Robots

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

Science Fiction Conventions

<https://2021.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/>

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: cgjohnson@ieee.org and request to be placed on the distribution list for a monthly copy of the agenda and minutes. More meeting details are available on the next page of this newsletter.

Other Meetings:

About half of our members maintain memberships in one or more of the IEEE technical societies, which automatically makes them members of the local chapter which is affiliated with that society. As a result, they should receive notices of the local chapter meetings each month.

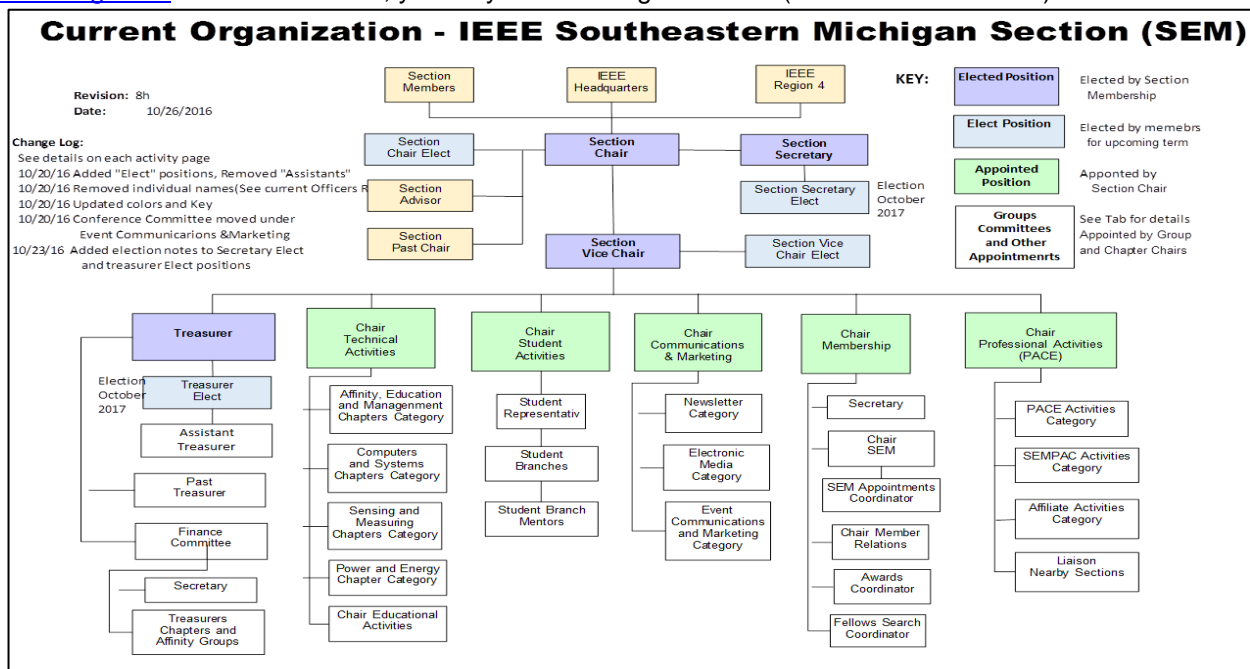
However, members of the section may have multiple technical interests and would like to have meeting information of other chapters. In order to communicate the meeting dates of all the chapters, affinity groups etc., to our members to facilitate their attendance, leaders of the groups are requested to send meeting information to our webmasters for posting on section’s calendar.

More detailed information on meetings may be found 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-Elect)

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 2022 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 2022 meetings. Or, link your personal calendar to the SEM Web calendar.

Section Administrative Committee (ExCom) Meeting Schedule for 2022:

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</i>	<i>Date & Time</i>
March 03,2022 - SEM Section ExCom Monthly Meeting (Teleconference) for March 2022 https://events.vtools.ieee.org/m/289867	6:30 PM
April 07,2022 - SEM Section ExCom Monthly Meeting (Teleconference) for April 2022 https://events.vtools.ieee.org/m/289868	6:30 PM
May 05,2022 - SEM Section ExCom Monthly Meeting (Teleconference) for May 2022 https://events.vtools.ieee.org/m/289869	6:30 PM
June 02,2022 - SEM Section ExCom Monthly Meeting (Teleconference) for June 2022 https://events.vtools.ieee.org/m/289870	6:30 PM
July 07,2022 - SEM Section ExCom Monthly Meeting (Teleconference) for July 2022 https://events.vtools.ieee.org/m/289871	6:30 PM
August 04,2022 - SEM Section ExCom Monthly Meeting (Teleconference) for August 2022 https://events.vtools.ieee.org/m/289872	6:30 PM
Sept 01,2022 - SEM Section ExCom Monthly Meeting (Teleconference) for September 2022 https://events.vtools.ieee.org/m/289873	6:30 PM
October 06,2022 - SEM Section ExCom Monthly Meeting (Teleconference) for October 2022 https://events.vtools.ieee.org/m/289875	6:30 PM
Nov 03,2022 - SEM Section ExCom Monthly Meeting (Teleconference) for November 2022 https://events.vtools.ieee.org/m/289876	6:30 PM
Dec 01,2022 - SEM Section ExCom Monthly Meeting (Teleconference) for December 2022 https://events.vtools.ieee.org/m/289877	6:30 PM

Christopher Johnson (Secretary Elect)
cgjohnson@ieee.org

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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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

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

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 “” 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 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

Colleen Chmielewski

Standing Committees:

Section Adviser

Don Bramlett

Wavelengths Editor

Sharan Kalwani

Chair Educational

Christopher Guirlanda

Chair Finance Committee

Sharan Kalwani

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

Open!

Chair Technical Activities

Jeffery Mosley



IEEE Southeastern Michigan

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



Sarcasm

@sarcastic_us

If the number 666 is considered evil, then technically, 25.8069758 is the root of all evil.

Advertising Rates

SEM Website & Newsletter

Leadership Meetings

SEM Executive Committee Monthly Teleconferences:

- 1st 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.)

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>