Wavelengths

Volume 65 – Issue 05

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Section Chair's Message

Welcome to May!
There is plenty to look forward to this month by way of activities. Now that the weather is warmer, we are encouraging more folks to contact either the section or their chapters, student branches, or affinity groups, and ask them to organize more events.

I see we have 3 very interesting documentaries scheduled. Interestingly enough, they are enormously popular well outside the section, in fact in the region and even beyond!
Some of those documentaries are on:

- ✓ Frank Drake – after whom the famous equation is named
- ✓ Rachel Carson – she inspired the entire environmental movement
- ✓ Maryam Mirzakhani – a truly amazing mathematician

But the upcoming real major/massive events are of course:

- ✓ Annual EMC Fest2025 and
- ✓ RoboFest World Championship

Both of them are signature events of our Section and you don't want to miss them!

To register, find the "Upcoming Events" tables and follow the vtools links. Or you can check out the flyers in this issue.

Volunteering:
We, IEEE Southeastern Michigan Section, function based on the work of our volunteers. If someone has important obligations that reduce their ability to volunteer, other volunteers need to step in and carry the load. The more volunteers we have, the easier the workload on everyone. Please volunteer, you will find the experience interesting and rewarding.

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

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

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

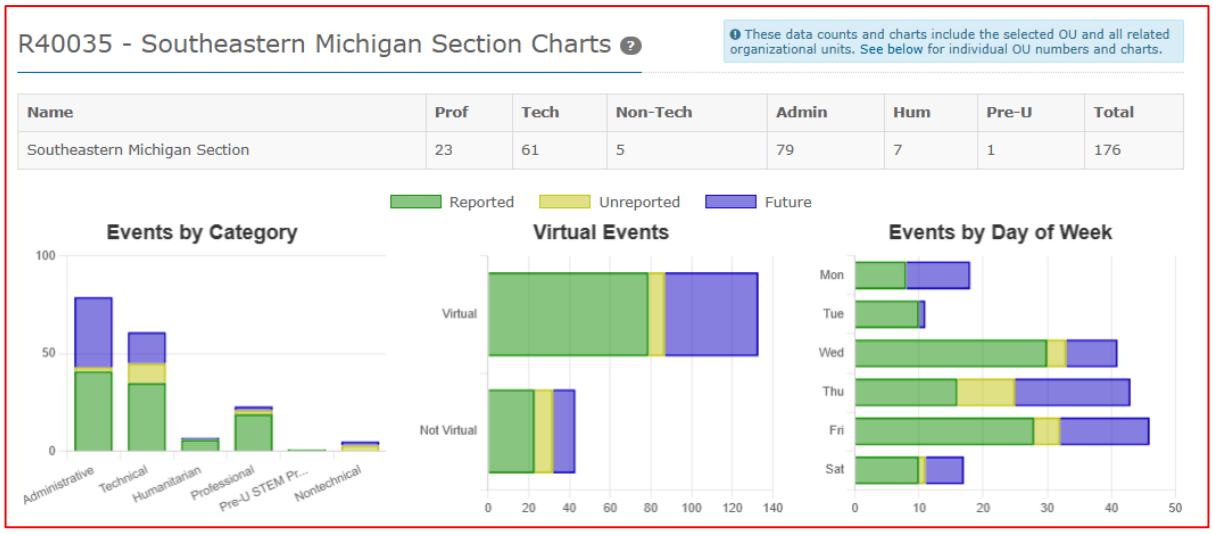
Also of note – we take a great deal of interest in our members welfare. We have already scheduled TWO senior elevation events this and next month PLUS membership development (coming in May and June).
I look forward to hearing from you and seeing you at our events. As always, your ideas and suggestions are encouraged and welcome. If I don't hear back (good or bad) I will assume all is well 😊

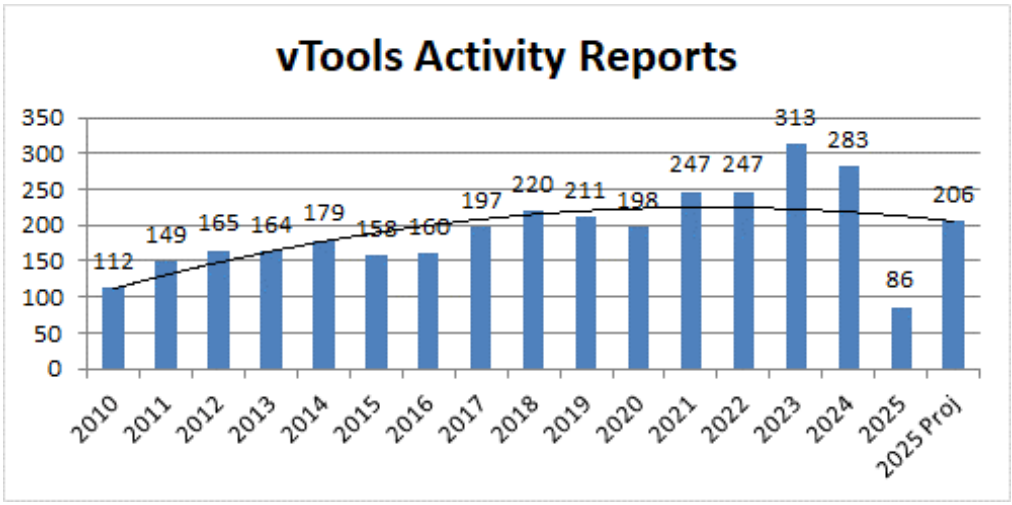
Sharan Kalwani
Via email: chair@ieee-sem.org

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

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

- 🕮 Chair is chair@ieee-sem.org
- 🕮 Vice Chair is vicechair@ieee-sem.org
- 🕮 Treasurer is treasurer@ieee-sem.org
- 🕮 Secretary is secretary@ieee-sem.org
- 🕮 Advisor is advisor@ieee-sem.org





Upcoming Events

We have several events coming up this month, all are listed below, FYI
Note: All times are EST/EDT.
If any events are missed do kindly bring them to the attention of wavelengths@ieee-sem.org. Enjoy!
You can also use this bookmark to view
All of the links at a single glance **https://bit.ly/sem-upcoming**

Event	Date	Time (US Eastern)
Ch8: AdCom Teleconference : Southeastern Michigan EMC Chapter, EMC27	01 May 2025	1100 Hours
Technical History of Video Conferencing : Southeastern Michigan Section Chapter, E25	02 May 2025	1830 Hours
EMC Fest 2025 Vendor & Committee Dinner Registration : Southeastern Michigan EMC Chapter, EMC27	07 May 2025	1730 Hours
EMC Fest 2025 **Vendor Registration Page** : Southeastern Michigan EMC Chapter, EMC27	08 May 2025	0730 Hours
EMC Fest 2025: Southeastern Michigan Chapter EMC27	08 May 2025	0730 Hours
SEM Section ExCom Monthly Meeting (virtual) For MAY 2025 :	08 May 2025	1830 Hours
Tour of TUV Test Lab	09 May 2025	1445 Hours
Impact of Global Events on the Internet	09 May 2025	1830 Hours
Brewing Connections: SEM Women in Engineering Social	10 May 2025	1400 Hours
IEEE Southeastern Michigan YP Admin meeting	12 May 2025	1730 Hours
Documentary Night: Maryam Mirzakhani : Southeastern Michigan Computer Society Chapter, C16	12 May 2025	1800 Hours
Technical Judging: RoboFest World Championship, RA24	17 May 2025	0800 Hours
Senior Member Elevation (a HYBRID Event!) : Southeastern Michigan Section	17 May 2025	1030 Hours
Documentary Night: Rachel Carson : Southeastern Michigan Education Society Chapter, E25	27 May 2025	1800 Hours
Documentary Night: The Drake Equation : Southeastern Michigan Section Chapter, C16	30 May 2025	1800 Hours

Say Anything

When I led leadership development training for a large mutual fund company we offered a lot of training focused on helping people have hard conversations. Over time I realized that despite that I'd bought and offered the best training programs I could find, the training wasn't helping. Managers didn't give enough feedback, and when they did give feedback, employees were often left confused, wondering what they needed to do differently.

I decided that what was missing was the conversation before the crucial conversation. It wasn't that managers didn't know what they wanted to say; many managers felt they couldn't say what they wanted to say. There wasn't sufficient safety or permission for giving feedback, so managers said little or delivered messages that were so vague, employees were left wondering if there was a problem.

If you're struggling with giving feedback, I doubt it's the message that's the challenge. The distinction between being able to tell the truth (as you see it) and saying nothing, is the quality of your relationship.

Think about the people – personal and professional – who can say anything to you. These are the people who can tell you the person you're dating is wrong for you, that a piece of clothing is not flattering, or that you dropped the ball. You may not enjoy getting the feedback, but you're able to hear what they have to say and take it in, because you know they care about you and have your best interests at heart. You trust their motives. When you trust people's motives, they can say anything to you. When you don't trust people's motives, there is little they can say.

If you're struggling to give feedback, evaluate your relationship by asking these questions:

1. Does this person trust me?
2. Does this person know that I have their back under any circumstances?

If the answer to either of the questions is no, it's not giving feedback you're struggling with, it's the quality of your relationship. Work on building trust with this person and you'll be able to say whatever you feel you need to say.

Here are four steps to building trusting relationships:

1. Ask questions to get to know people better than you know them now.
2. Tell people you want them to succeed and demonstrate that by being supportive of their efforts.
3. Set the expectation that you will give both positive and upgrade feedback as events happen, because you want the person to be successful.
4. When you deliver feedback, be extremely specific. Feedback that is specific will be received much better than vague feedback, which is typically judgmental.

When people know that you respect and support them, you have a great deal of freedom to speak up. When people don't trust your motives, giving feedback is almost impossible. The recipient will become defensive and dismiss whatever you say, rationalizing that you don't like them.

Worry less about giving feedback – for now. Instead, build trust. Get to know people better, then work on giving feedback.

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

Ham Radio

Field Day (June 28-29, 2025) is an annual amateur radio exercise, widely sponsored by IARU regions and member organizations, encouraging emergency communications preparedness among amateur radio operators.

In the United States, it is typically the largest single emergency preparedness exercise in the country, with over 30,000 operators participating each year. Field Day is always the fourth full weekend of June, beginning at 1800 UTC Saturday and running through 2059 UTC Sunday. Amateurs in Canada and Mexico also cooperate in the operations and add an international component to the exercise.

Since the first American Radio Relay League (ARRL) Field Day in 1933, radio amateurs throughout North America have practiced the rapid deployment of radio communications equipment in environments ranging from operations under tents in remote areas to operations inside Emergency Operations Centers (EOCs). Operations using emergency and alternative power sources are highly encouraged, since electricity and other public infrastructures are often among the first to fail during a natural disaster or severe weather.

To determine the effectiveness of the exercise and of each participant's operations, there is an integrated contesting component, and many clubs also engage in concurrent leisure activities (camping out, cookouts, etc.).

Operations typically last a continuous twenty-four hours, requiring scheduled relief operators to keep stations on the air.

Additional contest points are awarded for experimenting with unusual modes, making contacts via satellite, and involving youth in the activity.
***** ***** ***** *****

Local Field Day Sites:

Most amateur radio club sponsored field day sites encourage visitors to come and see what amateur radio is all about, and many also have “Get On The Air” (GOTA) stations set up for non-amateurs to operate under the control of a licensed amateur radio operator.

Many local Ham clubs will host field day sites. Check with one near you. A partial list of clubs in our Section is below.

- W8TQE Adrian Amateur Radio Club
  50 Plus Years of Ham Radio
- MSUARC
  The MSU Amateur Radio Club is a unique student organization within the College of Engineering at MSU
- WW8GM GM Amateur Radio Club
  General Motors Amateur Radio Club - WW8GM EchoLink Repeater in SE Michigan
- FAARA Fenton Radio Club
  The club is located in Fenton, MI. and has a repeater site on Denton Hill
- MCRCA Monroe County Radio Communications Association
- Central Michigan Amateur Radio Club
  Offer a wide variety of activities, including instruction to prospective new Amateurs, and classes for upgrades to General and Extra
- Lapeer County Amateur Radio Association
  Serving Lapeer County & Surrounding Communities in Michigan
- W8MRM The Motor City Amateur Radio Club
  Motor city radio club, mcrc, w8mrm
- Great Lakes Amateur Radio Rovers
  Not-for-profit, Michigan fraternal organization.
- Livingston Amateur Radio Club
  LARK Livingston county michigan
- N8LC L'Anse Creuse ARC
- W8DF Southern Michigan Amateur Radio Society
  Southern Michigan Amateur Radio Society Battle Creek,Michigan
- BAARC Welcome
  The bay area amateur radio club (baarc).
- W8YDK Milford ARC
  The Milford Amateur Radio Club, Established in 1961 Milford, Michigan

Courtesy Wikimedia Foundation, Inc. and ARRL, the national association for Amateur Radio hq@arrl.org

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Congressional Visit Day

The recent IEEE CVD visits have been highly productive, offering valuable insights into the latest advancements in computer vision and data analytics. During these visits, our team engaged with industry experts, leading researchers, and corporate representatives to discuss innovative applications, emerging technologies, and potential collaboration opportunities.
These interactions have fostered strong partnerships and helped identify key areas for future research and standardization efforts. The visits underscore IEEE CVD's commitment to advancing cutting-edge developments and strengthening the global community in this dynamic field.

Here are the key issues we emphasized in the policies with our Congressional representatives:

Ask # 1: As part of the FY26 appropriations process, please protect important technology and innovation-driven initiatives through strategic investments in key technology research agencies: NSF, NIST, DOD, DOE, and NASA.

Ask # 2: Support and prioritize reauthorization of the federal SBIR and STTE programs before the current authorization expires at the end of Fiscal Year 2025 (Sept 30, 2025).

Ask # 3: Support the bipartisan CREATE AI Act (H.R. 2385)

Ask # 4: Support the bipartisan Keep STEM Talent Act of 2025 (S.1233/H.R. 2627)

Ask # 5: Authorize the Distracted Driving Act, which is with the Transport Authority to be approved; the European Union has already approved this act.

This advocacy reflects the IEEE CVD's holistic approach, where cutting-edge research meets actionable policy, ensuring that innovation thrives both in the lab and in society.
Together, we're not just shaping technology, we're shaping the future.

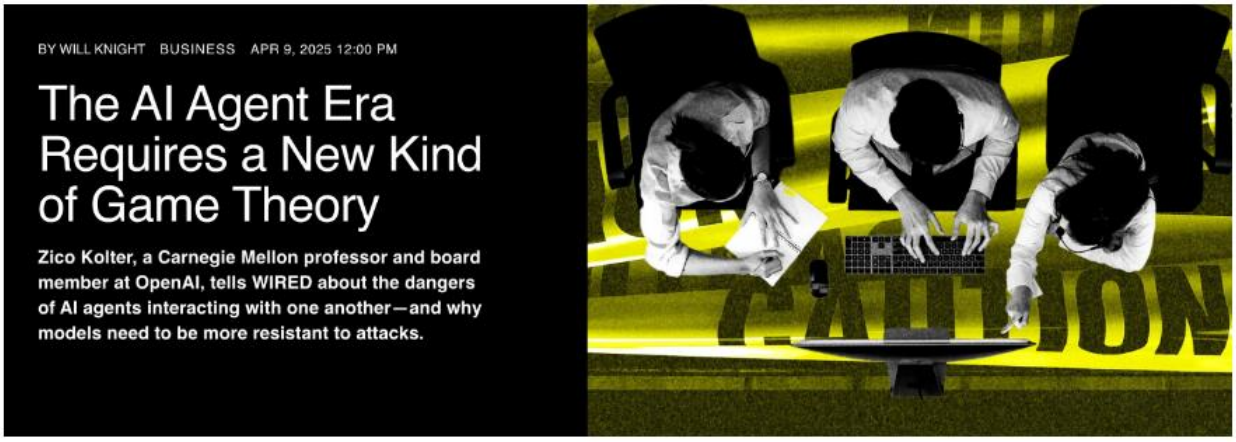
The team of the Southeastern Michigan Section of R4 Central USA, shown below, made this happen.

In the photo, starting from left to right,

John Soltis
Hari Prasad Bhupathi
Robert Fumai (LC)
Susan Brooks
Sreekanth B Narayan

Contributed By:
Sreekanth Narayan

Got AI?



https://www.wired.com/story/zico-kolter-ai-agents-game-theory/

***Zico Kolter has** a knack for getting artificial intelligence to misbehave in interesting and important ways. His research group at Carnegie Mellon University has discovered numerous methods of tricking, goading, and confusing advanced AI models into being their worst selves.*

Kolter is a professor at CMU, a technical adviser to Gray Swan, a startup specializing in AI security, and, as of August 2024, a board member at the world's most prominent AI company, OpenAI. In addition to pioneering ways of jailbreaking commercial AI models, Kolter designs his own models that are more secure by nature. As AI becomes more autonomous, Kolter believes that AI agents may pose unique challenges—especially when they start talking to one another.

The snippet above came through the IEEE **S**ociety on the **S**ocial **I**mplications of **T**echnology (**SSIT**) which has been the watchdog for IEEE since its inception. With a strong focus on Ethics in Technology and Engineering, SSIT has often been the defenders of 'Whistle Blowers' when they shine a light on corporate or government actions that potentially have threats embedded in their actions, activities or products.

Often Whistle Blowers have been engineers who noted problems with product designs, or manufacturing methods and were under threat by management to 'keep quiet' or leave.

Early automatic safety systems in the BART, gas tank problems in early Ford Pinto and the booster gaskets in the Challenger space craft are notable cases in the past. In each case, engineers sounded the alarm and management that had its eye firmly fixed on financial or political factors ignored the engineer's warnings.

Everyone who joins the IEEE, is required to check the box that declares they have read and **agree to** and **follow** the **IEEE Code of Ethics.** Few members are also aware of the IEEE Code of **Conduct**. For your benefit you may use Cntl+Click to follow both links below to **read these seminal IEEE documents**.

Review the IEEE Code of Ethics

Review the IEEE Code of Conduct

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EMCFest 2025

Register at >>> https://events.vtools.ieee.org/event/register/464558

Tech Activities Report

As of April 29, 2025

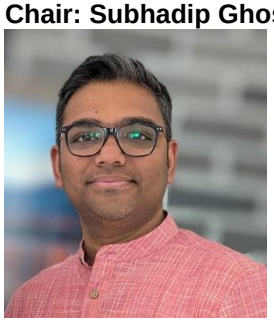
Ch's & AG's	Ave Tech Mtg. Attend	Ave Tech Mtg Guest	#L31 -Technical	#L31 -Admin	#L31 Professional	#L31 -Other	Geo-Unit Name	# Unreported	Total Mtgs
CnsIt	0	0	0	1	1	1	Consultants Network	0	3
LIFE	0	0	0	0	0	1	Life Members	0	1
WIE	50	30	1	4	0	0	Women In Engineering	1	5
YP	0	0	0	2	1	0	Young Professionals	0	3
1	0	0	0	0	0	0	Circuits & Systems, Signal Proc., Info Th.	0	0
2	21	0	1	2	0	0	Vehicular Technology	0	3
3	16	10	1	2	1	0	Aerospace & Elec. Sys., Communications	0	4
4	26	14	1	3	1	0	Trident (Ant, Elect Dev., uWave, Photo)	0	5
5	31	1	10	5	11	3	Computers	1	29
6	21	3	3	0	0	0	Geoscience & Remote Sensing	0	3
7	0	0	0	2	0	1	Power Engineering, Industrial App.	0	3
8	29	14	2	3	0	0	Electromagnetic Compatibility (EMC)	3	5
9	52	4	1	2	0	0	Power Electronics, Industrial Electronics	0	3
10	16	10	1	1	0	0	Engineering Management	0	2
11	14	0	1	0	0	0	Eng. in Medicine & Biology	0	1
12	21	0	1	0	0	0	Control Systems	0	1
13	0	0	0	0	0	0	Education	0	0
14	0	0	0	0	0	0	Robotics & Automation	0	0
15	21	12	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
18	0	0	0	0	0	0	Magnetics Society	1	0
									0
SEM	21	1	1	10	1	1	SEM (Section)	3	13
Tot	339	99	26	37	16	7	NOTE: Highlight Green = Active	9	86
		29%					NOTE: Highlight clear = Concern		

SEM Section Chapter and Affinity group leaders who are not showing any technical or administrative meetings are encouraged to reach out to the TAcom in the coming year for assistance. It's the end of the year and our Section continues to exceed our projections for technical meetings hosted for our membership. Thanks to all GAs working to engage their membership.

Jeff Mosley, TAcom Chair
CIS CH 16 Chair (SEM Section, Region 4)

Chapter 10 Officers

Chair: Subhadip Ghosh



Subhadip Ghosh is a seasoned professional with 18 years of experience in automotive systems and mobility. His expertise spans vehicle security, ADAS, EVs, cyber-physical security, and embedded security. He has served in diverse roles - from developer to leader - bridging research and product development, and delivering secure, safety-critical systems. Currently, as a Cybersecurity Architect at Ford Motor Company, he leads the design of secure, next-generation automotive solutions by embedding security-by-design principles and mentoring engineering teams. He holds a Doctor of Engineering in Automotive Systems and Mobility, an M.S. in Electric-Drive Vehicle Engineering, and a B.S. in Computer Science and Engineering.

Vice-Chair: Naveen Bonagiri

Naveen Bonagir**i** is currently working as Engineering Project Manager in Light Vehicles group at Dana Incorporated in the Electrification programs. He has a Masters in software systems and MBA in information management systems. Naveen has 20+ years of experience in Automotive software engineering for a wide range of products. Started his career working developing software for instrument panel clusters and later worked on software development for passive safety, telematics, active safety and ADAS/Automated driving. He also worked in the product development area which helped him get experience overseeing product development in all engineering disciplines.

Secretary: Kimball Williams

Kimball Williams: Retired as a Senior Manager and Technical Fellow with Denso Americas in Southfield, MI, USA where he was the technical lead for the EMC test laboratory. He is a certified Master EMC Design Engineer. His wife and 5 children helped him achieve a BSEE degree from Lawrence Technological University in night school. Now he is a full-time amateur radio operator (N8FNC), an occasional scuba diver, private pilot and plays classical guitar in his spare time.

Treasurer: Priya Boopalan

Priya Boopalan works as Electronics Life Cycle Manager at ZF Active Safety and Electronics, located in Farmington Hills, Michigan, USA. She is an electronics engineering graduate from Vellore Engineering College (VIT) with a master's business degree in Operation management from IGNOU. For over 24 years, Priya Boopalan has been working in electronic circuit design in high-speed electronics and automotive ADAS electronic designs. She actively works to stay ahead of the Electronics Component Crisis that is impacting on the semiconductor industry by leading an Electronics Life Cycle Management team.

She is a Senior Member of the IEEE Southeastern Michigan Section. She co-owns two published Indian patents and submitted one US patent. Priya have also contributed to few book chapters, conference papers and journal publications and owns a Google Scholar page. She is President of VIT-Alumni Association Michigan Chapter. Priya have worked to achieve PFAS-free and RoHS compliant designs to contribute to environmental sustainability. She has mentored 20+ college graduates internship candidates during her engineering supervisor role. She aims to bring women and young engineer in engineering field closer together and empower them.

Chapter 8 Officers

Chair: Scott Lytle

Scott Lytle earned his BSEE degree from Western Michigan University in 1979. Throughout his career, he has gained extensive experience as an instrumentation engineer across a variety of industries, including chemical, nuclear, utility boiler, and automotive.

In 1989, Scott transitioned into electromagnetic compatibility (EMC) testing, beginning his work at Eaton Corporation in Southfield, Michigan. He later joined Yazaki North America in 2000. After retiring in 2021, Scott founded his consulting business, Lytle EMC.

Scott holds iNARTE certifications in EMC and ESD, which he earned in 1995. Additionally, he completed the Management Development Program in Technology at The University of Michigan-Dearborn in 2002. A licensed amateur radio operator since 1995, Scott upgraded to an Amateur Extra License in 2024 (callsign N8EMC). He is also Scoutmaster Emeritus for Troop 1539 in Plymouth, Michigan.Outside of work, Scott is passionate about swimming, tennis, pickleball, and cycling. He is married to Cathy Lytle and is a proud father of three children and grandfather to five grandchildren.

Vice-Chair: Candance Suriano

Candace Suriano has loved learning, teaching, and experimental investigating ever since she got her first Erector set. She taught Computer Science at Michigan State University to middle schoolers while in high school under Professor Herman Hughes. Candace attended General Motors Institute/GMI earning a BSME. Candace worked as a coop, working her way through college. While at GMI, Candace and her husband John helped teach grade school students how a switched reluctance motor operated as a part of GMI's outreach to students. Candace designed the motor parts on CAD and machined them in the lab. Candace went to Purdue University as a teaching assistant, and then as a research assistant. She received a MSME degree from Purdue which focused on vibration and empirical data analysis. Candace's next master's degree at Purdue was from the Electrical Engineering department. She correlated electrical line noise to the physical vibration and radiated audible emissions of a motor. Candace Suriano's PhD from the University of Dayton was obtained while working in EMC for GM, ITT, and Valeo under the direction of Professor Gary A. Thiele, coauthor of Antenna Theory and Design. Candace's research centered on correlating empirical radiated emissions testing data with electromagnetic models using, MOM, FDTD, finite elements, scaled models, used with empirical and modeled motor electrical current waveforms. Since graduating, she has done research and teaching, bringing the beloved Basics of EMC workshops to symposiums and our chapter, as well as reaching out with the Library Science Project by teaching, donating time, and delivering equipment given by our chapter to libraries and schools in our area.

Chapter 7 Officers

Chair: Looja Tuladhar

Looja R. Tuladhar (Senior Member, IEEE) received the B.E. degree in Electrical Engineering from Pulchowk Campus, Tribhuvan University, Nepal, in 2003, the M.S. degree in Electrical Engineering from Youngstown State University, Youngstown, OH, USA, in 2009, and the Ph.D. degree in Power Systems from Cleveland State University, Cleveland, OH, USA, in 2015.

He is currently a Senior Power System Engineer at Daymark Energy Advisors in Worcester, MA, USA, where he works with electric utilities and power system developers to provide technical insights that support strategic decision-making and planning. He has extensive experience in modeling renewable energy resources and conducting power system studies, including generation interconnection and electromagnetic transient (EMT) studies.Dr. Tuladhar is a licensed Professional Engineer in the state of Michigan. He is a member of the IEEE Power & Energy Society and serves on the IEEE Power System Relaying and Control (PSRC) Committee as a subcommittee member and Secretary of Working Group D44.

Vice-Chair: Sharan Kalwani

A seasoned scientific, technical and computing professional, Sharan has spent over 25+ years' experience in high performance computing, engineering applications simulation, benchmarking, networking, operations and project management. He is a senior member of IEEE, ACM, ASEI. He also serves as one of the writers/editors of the Sections monthly newsletter - Wavelengths. He has also served as Vice-Chair of IEEE Sustech 2022, IEEE SusTech 2021 Global Conferences. He is the recipient of: 2018 IEEE MGA Achievement award, 2021 IEEE Region 4 Jack Sherman award, 2022 Robert Neff Section award, 2023 IEEE Region 4 Outstanding Service Award and 2024 Engineering Society of Detroit (ESD) Anne O. Fletcher Award for his various contributions towards joint activities with sister professional technical societies.

Secretary: Binaya Joshi

Binaya L. Joshi (Senior Member, IEEE) received the B.E. degree in Electrical Engineering from Tribhuvan University, Nepal and the M.S. degree in Electrical Engineering from Michigan Technological University, MI, USA. He is an Electrical Engineer working at Commonwealth Associates, Inc., Jackson, MI, USA for the past 16 years, where he works with electric utilities and industrial clients primarily focusing on Power system protection.

Mr. Joshi is a licensed Professional Engineer in the states of Michigan and Ohio. He is a member of the IEEE Power & Energy Society and is active in the IEEE Power System Relaying and Control (PSRC) Committee working on different working groups.

New Officers: Suggestions

There are several actions that can & should be taken by officers when taking command of their organization. While one alone will not guarantee eventual success, leaving one out can seriously inhibit the long-term success of any team. The suggestions given here are my own understanding of what has worked well in the past. The specific sequence can be varied, so don't be concerned as long as all, or most, eventually come about.

1st: Establish regular and consistent Officer meeting days and times.

- This should first be applied to your organization's administrative committee (Chair / Vice-Chair / Secretary / Treasurer) if this is a traditional IEEE Geo-unit. If the organization is a standing committee, the titles will be more diverse.
- My personal experience has been that a first time 'face-to-face' meeting helps establish a rapport among the members. This is more effective when combined with refreshments or a meal.
  (*There is a reason why every culture on our planet greets newcomers with offers of something to eat and or drink, or both*.)
- Follow that first meeting with virtual meetings to minimize member travel and time but schedule other face-to-face gatherings at least 3 or 4 times each year to maintain the interpersonal gestalt established in the first event.
- Hold a 'non-working' social meeting near the end of the year to celebrate the successes and achievements of your team. This is the team's 'thank you' for a job well done.

2nd: Set up a communications method to remain 'in contact' with your general membership.

- Introduce your Officers and Volunteers to your general membership.
- Ask your members for their ideas on what activities and presentations they would like to see.
- Keep them informed about activities as they are planned.
- Seek additional officers and volunteers from among your members. An active meeting schedule may require more hands than just your four elected officers.
- Communications methods may include: Geo-unit website, eNotice, group meetings (ZOOM), picnic's, local site visit outings, etc.. Use your imagination. If one doesn't work, try something else.

3rd: Maintain contact with your Section Executive committee.

- Attend as many of the Executive Committee meetings as possible.
- Have your entire Administrative Committee attend and / or rotate that function among your officers and volunteers.
- Report on your Geo-unit activities to the Executive Committee, and…
- Document your activities with photos and articles contributed to the monthly Wavelengths newsletter.

4th: Use the 'v'Tools to plan and document all your activities.

- vTools Survey tools
- vTools Engage
- vTools eNotice
- vTools Events
- vTools Local Groups
- vTools Officer Reporting
- vTools Student Branch Reporting
- vTools Voting

5th: Establish contact with the other Geo-units in your Section.

- Cooperate with them to expand the opportunities for both your, and their, membership.
- Share the work and costs of organizing a major event.
- Increase attendance at events with both memberships
- Share information about both Geo-units for the benefit of both memberships.
- Have more fun!

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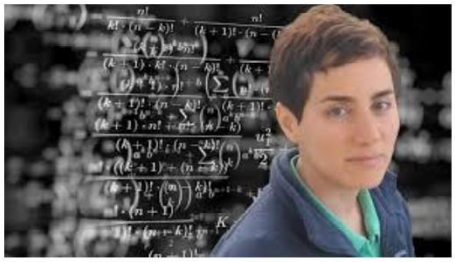
Maryam Mirzakhani

IEEE Southeastern Michigan

Presents:

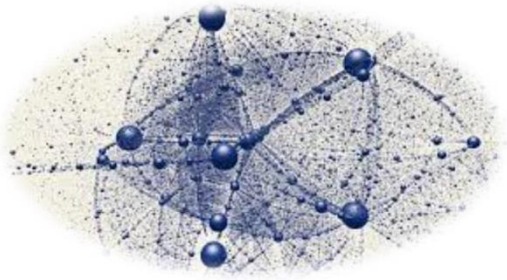
Maryam Mirzakhani: A Documentary



IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

Recently, as part of an innovative and fresh approach, i.e., a non-traditional meeting event: we presented video documentaries. This was very warmly received. So, we decided to continue the good work. We proudly present the documentary, *The Secrets of the Surface: Maryam Mirzakhani*

A documentary look at the life and scientific contributions of Iranian Mathematician, Professor Maryam Mirzakhani (12 May 1977 – 14 July 2017). She is the first woman to be honored with the Fields Medal, the most prestigious award in mathematics, for her work in the dynamics and geometry of Riemann surfaces and their moduli spaces.



At Glance

- **When:**
  Date: May 12th, 2025
  Time: 1800 – 1930 Hrs (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
&
Education Society
Chapters

***Pre-Registration Required:**

https://events.vtools.ieee.org/m/479753

IEEE Southeastern Michigan Section

Rachel Carson

IEEE Southeastern Michigan

Presents:

Rachel Carson: A Documentary

IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

Rachel Louise Carson (May 27, 1907 – April 14, 1964) was an American marine biologist, writer, and conservationist whose *Sea Trilogy* (1941–1955) and book *Silent Spring* (1962) are credited with advancing marine conservation and the global environmental movement.

Late in the 1950s, Carson turned her attention to conservation, especially some problems she believed were caused by synthetic pesticides. The result was the book Silent Spring (1962), which brought environmental concerns to an unprecedented share of the American people. Although Silent Spring was met with fierce opposition by chemical companies, it spurred a reversal in national pesticide policy, which led to a nationwide ban on DDT and other pesticides. It also inspired a grassroots environmental movement that led to the creation of the U.S. Environmental Protection Agency. Carson was posthumously awarded the Presidential Medal of Freedom by President Jimmy Carter.

At Glance

- **When:**
  Date: May 27th, 2025
  Time: 1800 – 1930 Hrs (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 Education Society Chapter

***Pre-Registration Required!**

https://events.vtools.ieee.org/m/479796

IEEE Advancing Technology for Humanity

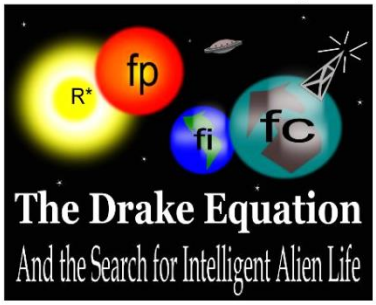
IEEE Southeastern Michigan Section

Drake Equation

IEEE Southeastern Michigan

Presents:

The Drake Equation: A Documentary



IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

Recently, as part of an innovative and fresh approach, i.e., a non-traditional meeting event: we presented video documentaries. This was very warmly received. So, we decided to continue the good work. We proudly present the documentary, *The Search for Life: The Drake Equation*

Summary: A look at the Drake equation, developed by Dr. Frank Drake as a way to think about the number of extraterrestrial civilizations in our galaxy that could exist and communicate with us

The Drake equation is:[1]

$$N = R_* \cdot f_p \cdot n_e \cdot f_l \cdot f_i \cdot f_c \cdot L$$

where

- N = the number of civilizations in the Milky Way galaxy with which communication might be possible (i.e. which are on the current past light cone);

and

- R_* = the average rate of star formation in our Galaxy.
- f_p = the fraction of those stars that have planets.
- n_e = the average number of planets that can potentially support life per star that has planets.
- f_l = the fraction of planets that could support life that actually develop life at some point.
- f_i = the fraction of planets with life that go on to develop intelligent life (civilizations).
- f_c = the fraction of civilizations that develop a technology that releases detectable signs of their existence into space.
- L = the length of time for which such civilizations release detectable signals into space.[6][7]

At Glance

- **When:**
  Date: May 30th, 2025
  Time: 1800 – 1930 Hrs (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/479751

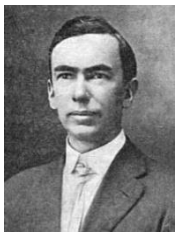
IEEE COMPUTER SOCIETY

IEEE Southeastern Michigan Section

IEEE Advancing Technology for Humanity

This Month in May

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

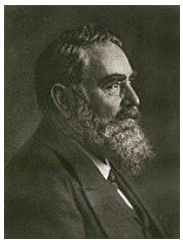


Frank Conrad (Station 8XK 1920), Born 4 May 1874, died at age 67.

An American electrical engineer whose interest in radio telephony led to the establishment of the first commercial radio station. Conrad worked for Westinghouse as assistant chief engineer at its East Pittsburgh Works and acquired over 200 patents in his lifetime. As an amateur, having built a transmitting station on the second floor of the garage behind his home in Wilkinsburg, PA, when he substituted a phonograph for his microphone, he discovered a large audience of listeners who had built their own crystal radio sets and who, upon hearing the music, wrote or phoned requests for more music and news. When he became swamped with these requests, he decided to broadcast regular, scheduled programs to satisfy his listeners. He coined the term "broadcast."

Walter Bruch, Died 5 May 1990 at age 82.

Walter was a German electrical engineer who invented the Phase Alternating Line (PAL) color television system adopted in Europe. On a trip to America in 1953, he found inadequacies in the system as first developed there (NTSC, National Television Standards Committee). He returned to his German employer – Telefunken - and researched a way to improve color stability without need for tint and hue controls. By 1961, a preliminary patent was filed, but was superseded on 30 Dec 1962 with a definitive version of the PAL system. There followed a struggle for it to be recognized as the best coding method. Britain selected PAL as superior to NTSC and introduced it on 1 Jul 1967. Germany followed on 25 Aug 1967. Eventually most of the world, too.



Oskar von Miller, Born 7 May 1855, died at age 78;

A German electrical engineer who fostered the electric-power industry in Germany and founded the Deutsches Museum of Science and Technology in Munich. He made fundamental initial experiments on long-distance energy transmission such as (in 1882) over 57 km from Miesbach to Munich with 1400 volts direct current. In 1891, he organized a 20,000-volt power transmission line over 175 km from Lauffen to Frankfurt, an important advance in the transmission of alternating current. From 1918-24, he was project manager building the power station on Lake Walchen, at that time the largest hydroelectric power station in the world. With an average of 300 million kWh a year, the Lake Walchen power plant is still one of Germany's largest peak load power stations.

William Lear, Died 14 May 1978 at age 75.

An American aeronautical engineer, electrical engineer and inventor who taught himself electrical engineering and is best known for the Lear Jet Corporation he founded, the world's first mass-producer of business jet aircraft. Beginning in 1930, over a 20-year period, he secured more than 100 patents for aircraft radios, communications and navigation equipment. Lear's other inventions include the miniature automatic pilot for aircraft, the first commercial automobile radio, and the eight-track stereo tape player.

Oliver Heaviside, Born 18 May 1850, died at age 74.

Oliver was an English mathematician, physicist and electrical engineer who predicted the existence of the ionosphere. In 1870, he became a telegrapher, but increasing deafness forced him to retire in 1874. He then devoted himself to investigations of electricity. In 1902, Heaviside and Arthur Kennelly predicted that there should be an ionized layer in the upper atmosphere that would reflect radio waves. They pointed out that it would be useful for long distance communication, allowing radio signals to travel to distant parts of the earth by bouncing off the underside of this layer. The existence of the layer, now known as the Heaviside layer or the ionosphere, was demonstrated in the 1920s, when radio pulses were transmitted vertically upward and the returning pulses from the reflecting layer were received. He invented a new technique for solving differential equations and independently developed vector calculus. He is also credited with rewriting Maxwell's equations in the form commonly used today. He formulated the telegrapher's equations and invented the Heaviside step function as well. In 1922, he received the Faraday Medal.

Hideo Shima, Born 20 May 1901, died at age 96.

Hideo was a Japanese engineer, who designed and supervised the construction of the world's first high-speed "bullet" train, linking Tokyo and Osaka. It began service at 138 mph in Oct 1964. The rail line opened a new era in land transport. (The current generation reaches 169 mph). Shima also led Japan's space development program until 1977 at Japan's National Space Development Agency. In his early career, Shima worked hard to further develop powerful steam locomotives, culminating in the wartime 2-8-2 D51 and D52 for freight and the post-war 4-6-4 C62 for passenger trains. He next developed electrical motive power distributed along the whole train length yielding higher power output on a multiple-unit train without damaging tracks and structures.

Lillian Evelyn Gilbreth, Born 24 May 1878, died at age 93.

Lillian (née Moller) was an American efficiency expert, who was the wife of Frank Bunker Gilbreth, contracting engineer, together developed the method of time and motion study. Upon her marriage, 19 Oct 1904, she became a partner in her husband's fledgling motion study business. As a contractor, he was already applying ideas to improve the speed of building. After a few years, they applied motion study to industry. Each step of work activity was to be studied in detail (employing motion pictures for analysis) to determine the optimal way to execute a given task. By choosing a method of least exertion, the employees would be healthier, more productive, and economically improve the business. She continued after her husband's death in 1924.

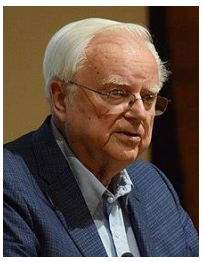
Ernst Ruska, Died 27 May 1988 at age 81.

Ernst August Friedrich Ruska was a German electrical engineer who invented the electron microscope. For “his fundamental work in electron optics and for the design of the first electron microscope” he was awarded a share of the Nobel Prize for Physics in 1986 (with Heinrich Rohrer and Gerd Binnig). In 1928, he found that a magnetic coil could act as a lens to focus an electron beam. Adding a second lens he produced the first primitive (x17 power) electron microscope. By 1933, his refinements increased the magnification to x7000, exceeding what was possible with visible light. The first commercial model was marketed in 1939. Since then, electron microscopes rapidly found applications in biology, medicine and many other areas of science.

Rachel Carson, Born May 27, 1907, Died April 14, 1964 (aged 56)

Rachel Louise Carson was an American marine biologist, writer, and conservationist whose book *Silent Spring* (1962) are credited with advancing marine conservation and the global environmental movement. Carson began her career as an aquatic biologist in the U.S. Bureau of Fisheries and became a full-time nature writer in the 1950s. Her widely praised 1951 bestseller *The Sea Around Us* won her a U.S. National Book Award. Her next book, The *Edge of the Sea*, and the post-war reissued version of her first book, Under the Sea Wind, were also bestsellers. This sea trilogy explores the whole of ocean life from the shores to the depths. Late in the 1950s, Carson turned her attention to conservation, especially some problems she believed were caused by synthetic pesticides. The result was the book *Silent Spring*, which brought environmental concerns to an unprecedented share of the American people. Although *Silent Spring* was met with fierce opposition by chemical companies, it spurred a reversal in national pesticide policy, which led to a nationwide ban on DDT and other pesticides. It also inspired a grassroots environmental movement that led to the creation of the U.S. Environmental Protection Agency. Carson was posthumously awarded the Presidential Medal of Freedom by President Jimmy Carter. ***See the flyer in this issue for a documentary about her.***

Frank Drake, Born May 28, 1930, Died September 2, 2022 (aged 92)



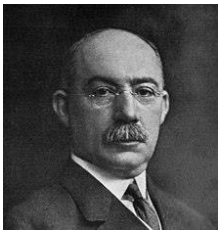
Frank Donald Drake was an American astrophysicist and astrobiologist. He began his career as a radio astronomer, studying the planets of the Solar System and later pulsars. Drake expanded his interests to the search for extraterrestrial intelligence (SETI), beginning with Project Ozma in 1960, an attempt at extraterrestrial communications. He developed the Drake equation which attempts to quantify the number of intelligent lifeforms that could potentially be discovered. Working with Carl Sagan, Drake helped to design the Pioneer plaque, the first physical message flown beyond the Solar System, and was part of the team that developed the Voyager record. Drake designed and implemented the Arecibo message in 1974, an extraterrestrial radio transmission of astronomical and biological information about Earth. He is the father of Advanced SETI. Drake worked at the National Radio Astronomy Observatory, Jet Propulsion Laboratory, Cornell University, University of California at Santa Cruz and the SETI Institute***. See the flyer in this issue for the documentary about him.***

John Bardeen, May 23, 1908 – January 30, 1991

The only person to have won the Nobel Prize in Physics twice, John Bardeen was an American physicist and one of the co-inventors of the transistor. A qualified electrical engineer, he also propounded a fundamental theory of conventional superconductivity along with physicists Leon N Cooper and John Robert Schrieffer. His inventions in the field of physics led to a revolution in the electronics industry as it was the transistor that paved the way for further research and development in information and communication technology. His contributions to the scientific world are of immense significance and he was counted among LIFE Magazine's list of "100 Most Influential Americans of the Century" in 1990. Even as a young boy Bardeen was exceptionally intelligent and performed brilliantly at school. He went on to study engineering. It was while working at Bell Labs that he invented the transistor along with some colleagues which led to his first Nobel Prize victory. A few years later he again won the Nobel Prize for his theory of superconductivity. He is among the only five people to win the coveted prize twice.

Edsger W. Dijkstra, Born 11 May 1930 – 6 August 2002

A pioneering computer scientist from the Netherlands, Edsger W. Dijkstra had initially studied theoretical physics, before focusing on computers. He developed the domain of structured programming and also won honors such as the Turing Award. He died at 72, after a long struggle with cancer.



Henry Gantt, Born May 20, 1861 – November 23, 1919

Best known for creating the Gantt Chart, a management tool used for scheduling tasks, mechanical engineer Henry Gantt had been a disciple and colleague of Frederick W. Taylor. He also prepared ground for the Human Relations School of management and spoke about the social responsibility of business.

Martin Eberhard, Born May 15, 1960

Martin Eberhard is an American inventor, engineer and entrepreneur who co-founded Tesla, Inc. (then Tesla Motors) with Marc Tarpenning in 2003, where Eberhard was its original Chairman and CEO, and served as CEO until late 2007. In 2015, he was inducted into the University of Illinois Engineering Hall of Fame. Eberhard grew up in Kensington, California, a community in the Berkeley Hills. He received a B.S. in computer engineering from the University of Illinois Urbana-Champaign in 1982 and an M.S. in electrical engineering from the same school in 1984.

Robert Moog, Born May 23, 1934 – August 21, 2005

Robert Moog was an engineering physicist widely regarded as the pioneer of electronic music. He launched the first commercial synthesizer, the Moog synthesizer, in 1964. A few years later, he launched the Minimoog, which went on to become the most famous and influential synthesizer in history. He taught at the University of North Carolina in his later years.

Ellen Ochoa, Born May 10, 1958

Ellen Ochoa is an American engineer, former astronaut and former director of the Johnson Space Center. In 1993, Ochoa became the first Hispanic woman to go to space when she served on a nine-day mission aboard the Space Shuttle Discovery. Ochoa became director of the center upon the retirement of the previous director, Michael Coats, on December 31, 2012. She was the first Hispanic director and the second female director of Johnson Space Center. Ochoa has won several prestigious awards including NASA's Distinguished Service Medal and Space Flight Medals. In 2017, she was inducted into the United States Astronaut Hall of Fame.

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.

Past readers have asked to feature one or more of these events in more detail. So, starting in January 2024, we have been featuring both documentaries and black & white movies, that will help shed more light on these luminaries and also explore the hidden side of their life stories. We will also endeavor to republish an article from various publications in the same month of Wavelengths.

We will also endeavor to republish an article from various publications in the same month of Wavelengths, featuring one or more of these luminaries. I urge any and all faculty of the STEM departments to share this with their students!

Also, like previous months in 2024, where we screened online scheduled documentaries featuring several of the folks mentioned in this column, we will repeat them ALL in 2025, as part of a growing series. Enjoy!

Sharan Kalwani
2022-2025 Chair, Southeastern Michigan Section,
Passionate Engineering History Buff/Aficionado

Member News!

The IEEE Southeastern Michigan Section is extremely proud and happy to welcome many senior members, who got upgraded (or elevated as we like to call it) to senior status. It is all part of our Membership Development on-going initiative to play a role in the professional lives of our members and support them in every which way possible. Congratulations to all. Do feel free to contact them for follow up.

Mohamad Berri & Sharan Kalwani.
Membership Development Committee

Newly elevated Senior Members:

Nagadithya Nookala

Nagadithya Nookala is a highly experienced Data Analytics and AI professional with a proven track record of success. For 13 years, he has been building and implementing data-driven solutions, most recently at Ford Motor Company, where he specializes in full-stack and cloud-based Data Analytics and AI product development. His core competencies include analyzing business needs, defining product vision and KPIs, and leading product development from inception to delivery. Prior to Ford, Nagadithya held key roles at Cognizant, TCS, Virtusa, and Dell, where he developed and enhanced Data Analytics and Business Intelligence platforms. He is passionate about sharing his expertise in data ingestion, data modeling, data design, data management, and AI product development with the broader Data Analytics community, and is dedicated to mentoring and leading others in adopting a data-first approach

Priya Boopalan

Priya Boopalan works for ZF ADAS and Electronics Global Headquarters, located in Farmington Hills, Michigan, USA. She is an electronics engineering graduate from Vellore Engineering College (VIT) with a master's business degree in Operation management. For over 24 years, Priya Boopalan has been working in electronic circuit design in high-speed electronics and automotive ADAS electronic designs. Priya have gained her specialization in Image Processing techniques, high-speed electronics Signal Integrity and Power Integrity, WCCA, DFA, RHFM, DFMEA, FTA, and Reliability Analysis. Her knowledge of Signal Simulation, Safety and reliability analysis helps the company develop reliable circuit designs that satisfy international safety standards by ensuring compliance with ISO 26262, ASPICE® and reliability criteria ensuring Safe Driving in ADAS. Priya

have assisted in resolving a wide spectrum of electrical circuit problems, from EMI/EMC failure analysis to chemical corrosion problems due to battery leaks.

She is also a member of PCI-SIG and Association of Supply Chain Management (ASCM). She co-owns two published Indian patents. She actively works to stay ahead of the Electronics Component Crisis that is impacting the semiconductor industry by leading an Electronics Life Cycle Management team. Priya have also contributed to few book chapters, conference papers and journal publications and owns a Google Scholar page. She is President of VIT-Alumni Association Michigan Chapter. Priya have worked to achieve PFAS-free and RoHS compliant designs to contribute to environmental sustainability. She has mentored 20+ college graduates internship candidates during her engineering supervisor role.

LMAG Get-Together

Topic – Human Devolution or Is It a Disconnect In Smartphone Era?
Invited Speaker
Narayan Verma MD FACP FAAN FAASM is rated amongst top 1% neurologists in the nation, in Press Ganey survey for 2004-2006. He is also listed as “Top Doc” in 2010,2011, 2013, 2014 and 2015 and 2021 issues of the HOUR DETROIT magazine, a “Top Doc” in US News and World report 2011-13, with over 302 reviews in US News and World Report , all 5-star rated-unheard of-for that many reviews-for any physician in USA, and a CASTLE-CONNOLLY Top-Doc for 14 years straight from 2008 to 2024. He is a Professor of Neurology at the Oakland University William Beaumont School of Medicine since 2010 and the President of its Faculty Assembly for 2017-18. The patientfusion.com website rates Dr Verma 4.5/5 with over 95 percent patients satisfied and 97 percent questions answered satisfactorily, among nearly 300 patients who have posted a review, making him the highest rated as well as the most rated physician on that site. His reviews among other sites vary from 4.2-5/5. He has written numerous papers, several book chapters and 5 books.

Details of the talk:
As we navigate through the ever-evolving landscape of the 21st century, one device has become a ubiquitous presence in our lives: the smartphone. With its immense power to connect, inform, and entertain, the smartphone has undeniably transformed the way we live. Yet, amidst these advancements, we must also confront a more troubling reality: the subtle yet profound ways in which our reliance on this technology may be leading to a kind of devolution.

The term “devolution” here is not used in its traditional sense of biological regression, but rather as a metaphor for the unintended consequences of our digital dependencies. Smartphones have redefined our social interactions, reshaped our cognitive processes, and altered our daily habits. While they have brought unparalleled convenience and accessibility, they have also contributed to a decline in certain human faculties and behaviors.

Meeting of Life Affinity Group with IEEE section Chair, Sharan Kalwani, IEEE fellows, and invited speaker, Narayan P Verma, MD (third from right), Also featured are Prof Feng Lin and Prof Hao Ying
December 20, 2024.

YP AG Officers

Chair: Amar Dabaja

Amar Dabaja is an electrical hardware engineer at Veoneer Safety Systems, where she designs passive safety electronics that detect and respond to crashes in automotive applications. Amar graduated from Lawrence Technological University (LTU) in May of 2021 with a bachelor's degree in electrical engineering. Her involvement in IEEE began during her years at LTU, as she served multiple leadership positions in the LTU student branch. Amar now serves as the continuing chair of the SEM Young Professionals Affinity Group. Outside of work and professional organizations, Amar enjoys volunteering at youth events, spending time with family outdoors, reading, baking, and learning new hobbies. Amar is excited to support the SEM YP community for another year in 2024. If you have any suggestions for YP activities, feel free to reach out to her at adabaja@ieee.org!

Vice-Chair: Sneha Shetiya

Sneha is a Senior IEEE member and Staff SW Engineer, with 8 years of experience in the automotive Industry. She currently focuses on autonomous vehicles. She has a Master's in Electrical Engineering with a focus on computer vision which equips her for AV complexities. At Torc Robotics, she tackles embedded topics for the AV stack. Her work with automotive diagnostics and systems engineering further emphasizes her commitment to reliable AVs. She has two patents filed for the SOTIF standard and is part of SAE and IEEE STANDARDS committees as a Producer which showcases her proactive approach to AV safety. Active in IEEE and WIE groups, she demonstrates leadership and mentorship within engineering. Sneha's technical skills, safety focus, and leadership make her a valuable asset in the development of safe AVs. She is the recipient of the 'Appreciation Award' for her contributions towards Region 4 SEM Section IEEE Activities. She has also received 'Exemplary Reviewer Award' for her reviews in IEEE OJVT Journal.

Secretary: Durvijay Sharma

Durvijay is a graduate with a Master's Degree in Computer Science and has over 10 years of professional experience in software engineering, specializing in big data, cloud computing, and scalable backend systems. He has a strong passion for optimizing petabyte-scale data lakes and has contributed significantly to the development of fleet management systems for autonomous vehicles. Durvijay is a Senior IEEE Member and currently serves as the Secretary of the SEM Young Professionals Affinity Group. He has also published research in AI-driven predictive modeling and radar tracking systems. Outside of his professional activities, Durvijay enjoys hiking, traveling, and exploring unique destinations.

Treasurer: Dr. Tauheed Khan Mohd

Dr. Tauheed Khan Mohd is an Assistant Professor at Eastern Michigan University's School of Information Security & Applied Computing, where he brings a dynamic blend of academic rigor and industry insight to the forefront of cybersecurity and Human-Computer Interaction (HCI). Dr. Khan began his academic journey with a B.Tech in Computer Engineering from Jamia Millia Islamia in New Delhi, India. He went on to earn his M.S. from The University of Toledo in 2015, culminating in a Ph.D. in Human-Computer Interaction from the same institution in 2019. In recognition of his impactful research and contributions, he was named a Senior Member of the IEEE in 2023—an honor reserved for professionals who have made significant advancements in engineering, computing, and technology. Before transitioning to academia, Dr. Khan built a solid foundation in the tech industry. He served as a Software Engineer at HCL Technologies and later at SOPRA, a leading French multinational, where his expertise took him on-site to AIRBUS in Toulouse, France, managing the Network Server System (NSS) for their onboard applications. His research spans several cutting-edge domains, including Human-Computer Interaction, Cybersecurity, Autonomous Vehicles, and embedded systems using micro-controller platforms like Arduino and Raspberry Pi. Dr. Khan's unique ability to navigate both human-centered design and complex technical systems allows him to develop solutions that are as user-friendly as they are secure. Through his research, teaching, and industry collaborations, Dr. Khan continues to inspire the next generation of cybersecurity professionals and HCI researchers—shaping a future where technology is not only advanced but also deeply attuned to human needs.

Robofest Report

Robofest eNewsletter

(1) Robofest World Championship Information and Announcements
(2) Michigan Invitational Event Registration to Open Monday, March 31
(3) Exhibition Team Deadlines for Video Qualifier and Video Screening
(4) In Search of 5, 10, 15 and 20-Year Coach Award Recipients ~ LAST CALL
(5) LTU Summer Program for High School Students includes Autonomous Robotics
(6) LTU Scholarship Opportunities
(7) Robofest Sponsorship Opportunity
Note: All times are listed in Eastern Time unless noted

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(1) Robofest World Championship Information and Announcements

The 26th Robofest World Championship Game and Exhibition Finals and Open Category Competitions will be hosted on Lawrence Technological University's campus on May 15 ~17, 2025 with the following schedule:

May 15: Unknown Mission Challenge and Jr BottleSumo (Group 1)
May 16: Jr BottleSumo (Groups 2 & 3), RoboParade, Sr BottleSumo Classic and Sr BottleSumo Unlimited
May 17: RoboArts, RoboMed, Vision Centric Challenge, Game Finals, Exhibition Finals

More details including practice times, event start times and campus locations can be found on the schedule: https://www.robofest.net/images/2425/WC2025Schedule.pdf

Registration is open for US Teams wishing to participate in the Open Category events. International teams who do not have a Robofest Director in their country may send an email to robofest@ltu.edu requesting registration.

Additional information regarding travel, a few hotels in the local area have set aside rooms and rates for Robofest attendees. Links are posted on the World Championship page on the Robofest.net website. Check back often for other World Championship updates.

(2) Michigan Invitational Event Registration to Open Monday, March 31

The 2025 Michigan Invitational event for both Junior and Senior Game Divisions offers Michigan Game teams who do not advance to the World Championship from their Qualifier a second chance to compete and advance to the finals. There may be a few slots for first-time teams that were not able to attend a qualifier.

April 26, 9:00 am ~ 1:00 pm in the LTU Computer Science Robotics Lab

(3) April 14 Deadline for Video Qualifier and Exhibition Video Screening

Video Qualifier Game and Exhibition teams must upload a link to their video by April 14.

Exhibition trophy winners in all US competitions including Michigan must upload their preview video by April 14 to be screened before the World Championship. Teams that did not automatically advance may also upload a video to be considered for advancement to the World Championship finals.

For more information, please see General Competition Rules on the 2025 Main page on the Robofest.net website.

(4) In Search of 5, 10, 15 and 20-Year Coach Award Recipients ~ LAST CALL

We would like to acknowledge our coaches who have coached Robofest teams for 5, 10, and 15 and 20 years!

To submit your name, please send an email to robofest@ltu.edu with the subject *Coach Award*. Please include the coach name, coach ID (include all IDs used), and number of years coaching. We will recognize these dedicated coaches at the Robofest World Championship Awards Ceremony on May 17.

(5) LTU Summer Program for High School Students includes Autonomous Robotics

Dr. Chris Cartwright, Robofest Executive Director and Associate Professor of Math, will be presenting **Become a Master Robot Builder and Python Coder!** during the week of July 14-18, 2025 (date has been updated) as part of the 2025 Lawrence Technological University STEM Center Summer Programs for High School students. Other exciting topics are available throughout the summer. More information and the registration portal are available at: https://ltu.edu/marburger-stem-center/summer-programs/

(6) LTU Robofest Scholarship Opportunity

In order to truly recognize the effort and exceptional talent of the Robofest competitors, Lawrence Technological University will continue to offer the Robofest Champion LTU Scholarship Award for 2025. Each team member of the top 3 Senior Division Game, Exhibition, RoboArts, RoboMed, UMC and Vcc teams at the World Championship events will receive a scholarship certificate to attend LTU:

~ 1st Place: $20,000 annual scholarship ($80,000 for 4 years)
~ 2nd Place: $16,000 annual scholarship ($64,000 for 4 years)
~ 3rd Place: $14,000 annual scholarship ($56,000 for 4 years)

Robofest participants who have competed at any time in any category may apply for the annual $3,000 LTU Robofest scholarship. More details will can be found on the Scholarship page: https://www.robofest.net/index.php/about/scholarship

(7) Robofest Sponsorship Opportunity

If you would like to support Robofest through a financial gift, you can contribute through the College of Arts and Sciences and designate Robofest under *Areas to Support* https://www.ltu.edu/giving/areas-to-support/coas

A donation of $200 or more will be recognized as a Friend of Robofest on our Sponsor page and on the World Championship promotional poster.

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

Dr. Chris Cartwright, Assoc Professor of Math, Robofest Executive Director, Executive Council Member
Prof. Elmer Santos, Robofest Technical Director, esantos@ltu.edu
Shannan Palonis, Robofest Assistant Director, spalonis@ltu.edu
Pam Sparks, Robofest Coordinator, psparks@ltu.edu
Anne Ruch, Robofest Coordinator, aruch@ltu.edu
Dr. CJ Chung, Prof Computer Science, Robofest Founder, Executive Council Chair, cchung@ltu.edu
Dr. Eric Martinson, Chair of Math & Computer Science Dept, Executive Council Member
http://www.robofest.net http://facebook.com/robofest https://www.linkedin.com/company/robofest-official

Robofest FLYER

Automotive Sustainability

Enhancing Automotive Sustainability through Semiconductor Life Cycle Management

The automotive industry accounts for approximately 10% of the total carbon dioxide production and produces nearly 80 million units annually. Since the gigantic environmental cost of this industry, it is highly essential to put more sustainable policies in place. One fine way to lower carbon footprint in this sector and overall sustainability is embracing the semiconductor lifecycle management. The motor vehicle sector is completely overhauling with a huge thrust towards going green. That is due to new rules, the way people are purchasing automobiles these days, and electric car popularity moving at breakneck speed. In addition, lightening supply chains on their carbon footprint and helping with Sustainable Development Goals (SDGs) is truly making disruptors.

1. ***Reimagining the Design Phase:***

In addition to satisfying performance standards, materials scientists and stage engineers are increasingly required to incorporate sustainability into the design from the start. These consist of:

- *Material Innovation*: selecting raw materials with less adverse environmental impact, developing biodegradable or readily recyclable substrates, and minimizing the use of conflict minerals. Engineers now use advanced modeling and simulation technologies to predict a material's environmental impact early on. Developing semiconductor structures that naturally use less energy to function is known as energy-efficient architecture. For automotive applications like electric vehicle (EV) power management, this includes developments in low-power circuits and designs.
- *Design for Disassembly:* Applying principles of the circular economy—recycling and end-of-life recovery built up front. Through modularity of semiconductor components, the industry can make refurbishing or recycling easier and reduce e-waste. This design stage is not only technical but also strategic, setting the foundation for the whole lifecycle management process and directly influencing sustainability results throughout the product's lifetime.

2. Transforming the Manufacturing Process

Large amounts of electricity, water, and dangerous chemicals are used in the resource-hungry process of making semiconductors. To lessen this:

- *Energy Optimization:* State-of-the-art fabrication facilities are adopting closed-loop energy recycling systems and renewable energy sources. AI-based process control and low-temperature deposition techniques are two examples of process innovations that can lessen their negative effects on the environment.
- *Process Innovation:* To reduce waste and water consumption, modern manufacturing approaches concentrate on simplifying chemical processes. In a few sophisticated fabs, methods like dry etching or even the use of greener chemicals are transitioning from experimental to mainstream.
- *Waste Minimization:* At the same time, wastewater recycling and the reuse of processed chemicals are gaining popularity. This not only indirectly lowers greenhouse gas emissions from production but also reduces the environmental risk of hazardous waste.

In this case, the challenge is how to balance high-performance requirements with sustainable production processes equilibrium that require innovative engineering, prescriptive policy regulation, and significant investment.

3. Advanced Testing for Sustainability

In addition to conventional performance metrics, testing now extends to environmental footprint assessments:

- *Lifecycle Testing:* Testing methodologies for semiconductors are being established to simulate long-term environmental exposure and real-world operating conditions. Embedding sustainability measurements at this point identifies probable inefficiencies that would then result in energy loss or premature degradation.

- *AI and Digital Twins:* Technologies like digital twin virtual models of semiconductor components— allow engineers to predict failure modes and energy inefficiencies without physical prototypes. This intersection of AI and testing not only saves resources but forces more sustainability performance requirements.

Sophisticated testing proves semiconductors to be energy-efficient throughout their entire cycle, so sustainable designs are delivered as expected in the field.

4. Deployment, Integration, and Real-World Impact

The deployment phase in automotive use is where design and production inputs come together with user experience and operational sustainability:

- *Intelligent Integration:* As vehicles become more and more highly integrated systems, semiconductors handle everything from energy management of electric vehicles to adaptive safety systems. Ensuring these chips operate in optimal energy ranges has a direct beneficial impact on lower emissions and improved car efficiency.
- *System-Level Efficiency:* Proper deployment means to set semiconductor usage within the larger electronic ecosystem of a vehicle. Power management optimized to a level and smart sensors can minimize energy wastage, increasing battery longevity as well as overall vehicle range.
- *Supply Chain Transparency:* Integration of technology in the digital supply chain, i.e., blockchain, ensures that all the parts, from semiconductors to finished vehicle, are traced for environmental compliance. This promotes an industry culture of responsibility and ongoing improvement.

5. Sustainable Disposal and the Circular Economy

Finally, disposal and recycling become imperative at the system's lifecycle end.

- *Advanced Recycling Technologies:* The intricate nature of semiconductors require advanced recycling methods, wherein material separation, chemical recovery, and remanufacturing are employed. Efficient recycling can recover valuable materials like rare earth elements and silicon, thus avoiding the use of new mining.
- *Design for Recycling*: Front-end design for recycling makes it simpler to disassemble and recover parts. This forward thinking can transform waste streams into useful reinforcement for upcoming production cycles.
- *Legislative and Incentive Frameworks*: In much of the world, government regulation and incentives are beginning to reward companies with good recycling performance and lower lifecycle emissions. By completing the loop, the automobile and semiconductor sectors not only lessen their environmental impact but also provide financial structures that promote sustainability over the long run.

6. Cross-Sectoral and Multidisciplinary Synergies

Significant sustainable change requires collaborative efforts across several sectors and is not just dependent on technical innovation:

- *Policy and Regulation*: Companies are being asked to create standardized environmental impact studies of the semiconductor production process as part of the government's growing obligation for sustainability reporting. While ensuring that sustainable operations are no longer an option, regulating these practices can also foster innovation.
- *Joint Research and Development*: Working together, chip producers, academic institutions, and automakers can speed up innovations. Joint ventures may concentrate on creating new, high-performance, sustainable materials or using AI to forecast waste management.
- *Market and Consumer Forces:* Growing numbers of environmentally aware consumers are forcing companies to demonstrate tangible sustainability achievements. This, in turn, fuels investments in green technologies and new lifecycle management solutions. The convergence of these forces produces a dynamic system where innovation in semiconductor sustainability drives bigger sustainable trends in the automotive sector—and vice versa.

Future Horizons and Emerging Trends

In the future, various trends will increasingly incorporate sustainable semiconductor management into car development:

- *Future-Generation Materials:* Investigation into alternative semiconductor materials like graphene or organic semiconductors is the key for even lower environmental impacts.
- *Digital Transformation*: Merging IoT and Industry 4.0 concepts within manufacturing can lead to real-time monitoring of energy usage and wastage, facilitating better adjustments and optimizations.
- *Ecosystem-wide Collaboration:* As businesses transition towards integrated digital ecosystems, platforms that consolidate data on environmental performance (from raw material source to disposal) will be priceless. These platforms can enable transparency and promote collective accountability.

About the author

Priya BOOPALAN's bio appears elsewhere in this issue (both as a recently elevated senior member and a recent volunteer officer to Chapter 10).

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 https://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 WORK space for online chat, discussions, connecting with SECTION specific IEEE activities, besides geared/focused towards our local Southeastern Michigan officers.

vTools Meetings:
https://vtools.ieee.org/
Select "Events" on the right hand side and then "manage Events" and then "Schedule" 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.

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
Chapter: 18 (CH04162)	(MAG33)	Magnetics Society

Section Unit Name or Affinity Group or Chapter Name (Organizational Unit code is in parentheses)	
University Of Detroit-Mercy:	(STB00531)
Michigan State University:	(STB01111)
University Of Michigan-Ann Arbor:	(STB01121)
Wayne State University:	(STB02251)
Lawrence Technological University:	(STB03921)
Oakland University:	(STB06741)
Eastern Michigan University:	(STB11091)
University of Michigan-Dearborn:	(STB94911)

And of course our Section OU # is : R40035!

Use the Geo-unit 'Codes' (Shown above between brackets '()' for faster access in the vTools system applications.
Example: Using STB94911 in the vTools search window goes directly to the Student Branch.
Faster than typing 'University of Michigan-Dearborn'. This works for all Affinity Groups, Technical Chapters and Student Branches.

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

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

Curated & Maintained By
Sharan Kalwani,
Chair, IEEE Southeastern Michigan Section (2022-2025)
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.

Non-IEEE Events

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.
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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/

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

Executive Committee

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

The SEM Executive Committee meets in a teleconference each month, 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: **https://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.

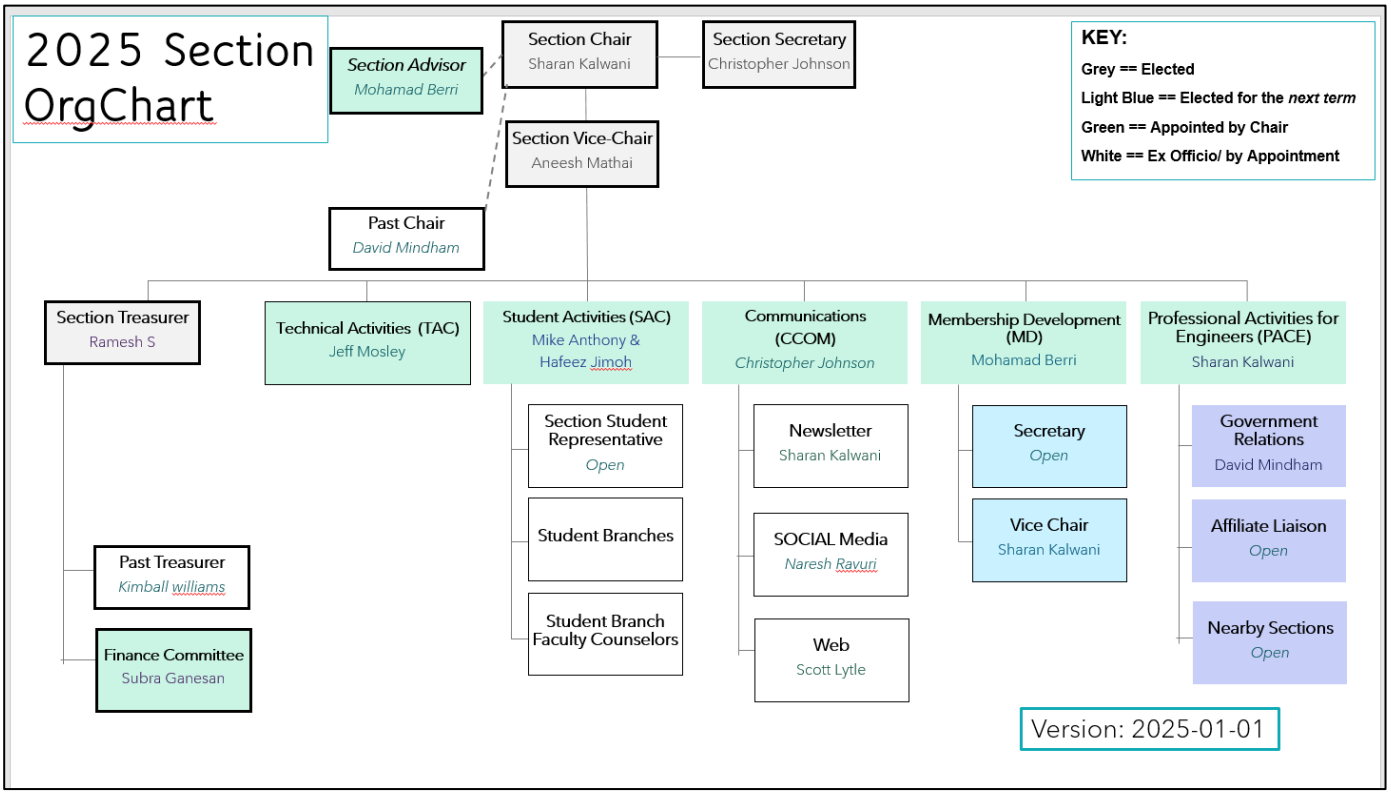
However, members of the section may have multiple technical interests and would like to have meeting information of other chapters. In order to communicate the meeting dates of all the chapters, affinity groups etc., to our members to facilitate their attendance, leaders of the groups are requested to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

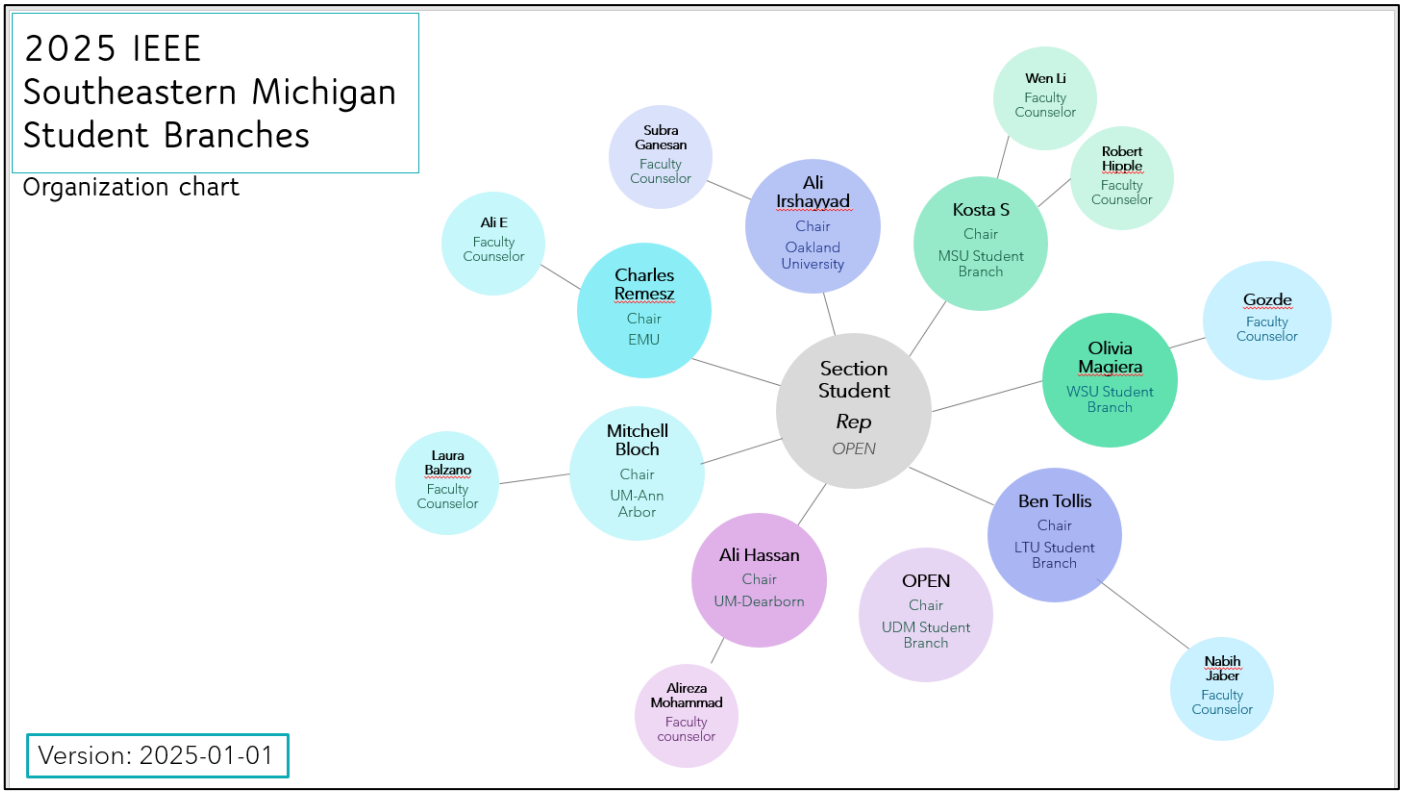
More detailed information on meetings may be found through the IEEE SEM Website: **https://r4.ieee.org/sem/** and clicking on the **SEM meetings list** button near the bottom of the left-hand banner.

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 available soon at https://r4.ieee.org/sem/ . In the meantime, you may use the diagram below (recently refreshed!)





ExCom 2025 Schedule

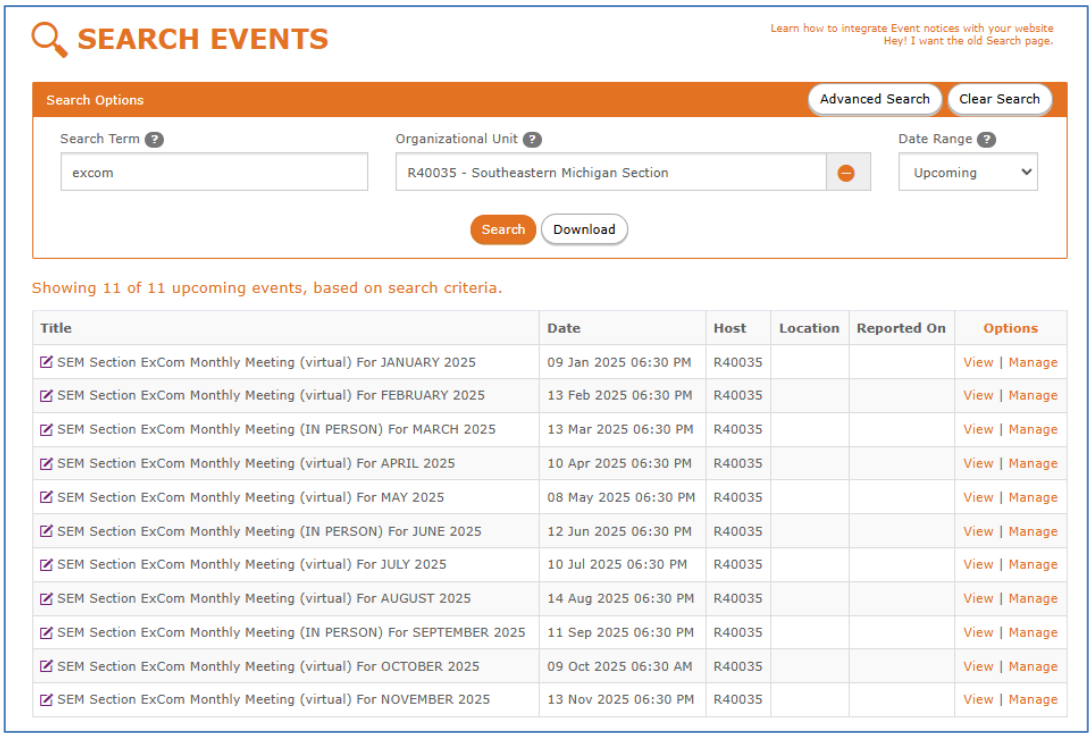
NOTE: All SEM members are invited to attend ALL ExCom (Executive Committee) meetings:
Below is the 2025 schedule for the Section ExCom meetings with links to add the events to your calendar. It is important that ***at least one person*** from each Chapter/Affinity Group attends each scheduled ExCom meeting. Please mark your calendars for the 2025 meetings. Or link your personal calendar to the SEM Web calendar.
Section ExCom Meeting Schedule for 2025: (clickable links, SO YOU CAN EASILY REGISTER)

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.

ExCom Meeting (all clickable links)	*Date & Start Time, Duration*
SEM Section ExCom Monthly Meeting (virtual) For MAY 2025	2025-05-08; 6:30 PM; 1 hour
SEM Section ExCom Monthly Meeting (IN PERSON) For JUNE 2025	**2025-06-12; 6:30 PM; 2 hours**
SEM Section ExCom Monthly Meeting (virtual) For JULY 2025	2025-07-10; 6:30 PM; 1 hour
SEM Section ExCom Monthly Meeting (virtual) For AUGUST 2025	2025-08-14; 6:30 PM; 1 hour
SEM Section ExCom Monthly Meeting (IN PERSON) For SEPTEMBER 2025	**2025-09-11; 6:30 PM; 2 hours**
SEM Section ExCom Monthly Meeting (virtual) For OCTOBER 2025	2025-10-09; 6:30 PM; 1 hour
SEM Section ExCom Monthly Meeting (virtual) For NOVEMBER 2025	2025-11-13; 6:30 PM; 1 hour

Christopher Johnson (Secretary)
Email: *secretary@ieee-sem.org*

ExCom 2025 Calendar



Section Administrative Committee (ExCom) Meeting Schedule for 2025 (At a Glance), you can print this page and pin it up anywhere easily visible……

Editor's Corner

Previous editions in this series may be found on the IEEE SEM website at: https://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
k.williams@ieee.org
cgjohnson@ieee.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,
2018~2019~2020~2021~2022-2023-2025

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

Wavelengths Annual Publication Plan for Personal Profiles

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

IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

Web & Social Sites

Southeastern Michigan Section Website
https://r4.ieee.org/sem/

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

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

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

SEM LinkedIn Page
(Select the "" button under the top row)
https://www.linkedin.com/groups/1766687/

SEM Twitter Account (new)
(Select the "" button under the top row)
https://www.twitter.com/ieeesemich

SEM Collabratec *Community* Page
https://ieee-collabratec.ieee.org/app/section/R40035/IEEE-Southeastern-Michigan-Section

SEM Collabratec *Workspace* Page
https://ieee-collabratec.ieee.org/app/workspaces/5979/IEEE-Southeastern-Michigan-Section/activities

SEM Instagram (new)
https://www.instagram.com/ieeesemich/

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

Section Officers

Section Chair
Sharan Kalwani

Section Vice-Chair
Aneesh Mathai

Section Secretary
Christopher Johnson

Section Treasurer
Ramesh Sethu

Standing Committees:

Section Adviser
Mohamad Berri

Wavelengths Editor
Sharan Kalwani

Educational Committee
Anthony Will (Chair)

Finance Committee
Subra Ganesan (Chair)

Membership Development
Mohamad Berri (Chair)

Awards & Nominations
Jerry Song (Chair)

PACE
Sharan Kalwani (Chair)

Student Activities
Michael Anthony & Hafeez Jimoh (Co-Chairs)

Student Mentors
OPEN

SECTION Student Rep
OPEN

Technical Activities
Jeffery Mosley

Information Mgmt. Coordinator
Kimball Williams

IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

IEEE Southeastern Michigan

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

There exists a quantity of artificial butter flavor beyond which people begin to believe it's not butter. This is known as the margarine of error

Advertising Rates

SEM Website & Newsletter Advertising is coordinated through our e-Wavelengths website at:

Leadership Meetings

SEM Executive Committee Monthly Teleconferences:

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

SEM Executive Committee Face-to-Face Meetings:

- 1/Qtr. 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
  https://r4.ieee.org/sem/
  (Select the "SEM Calendar" button in the top row.)

- Registration for all at:
  https://bit.ly/sem-upcoming