Wavelengths

Volume 65 – Issue 04

Contents

Section Chair's Message

Welcome to April!
So we have made it thru the first quarter and we still have plenty of opportunities to connect and make IEEE – truly our professional home.

We recently represented our Section at the Engineering Society of Detroit's annual event: Future Cities – a brief article will be forthcoming in the next (May) edition.

We also finally concluded the elections and, in this issue, we have published several profiles of the newly elected officers. More to come in the next issue!

We have also conducted training for the various roles and responsibilities for elected officers of the Section/Chapter/Affinity Group and Student Branches. The presentation slides and videos have been made available to those who attended (as well as those who registered). We shall be updating the website as well.

The month of April features a number of engineering and science luminaries, and due to the popularity of the documentaries, we are running them again. To register, find the "Upcoming Events" tables and follow the vtools links. Or you can check out the flyers in this issue.
Some of those documentaries are on:

- ✓ Claude Shannon, *"Father of the Information Age"*
- ✓ Charles "Proteus" Steinmetz, *Chief Engineer of GE*

And

- ✓ Robert Oppenheimer, *Builder of the 1st Atomic Bomb*

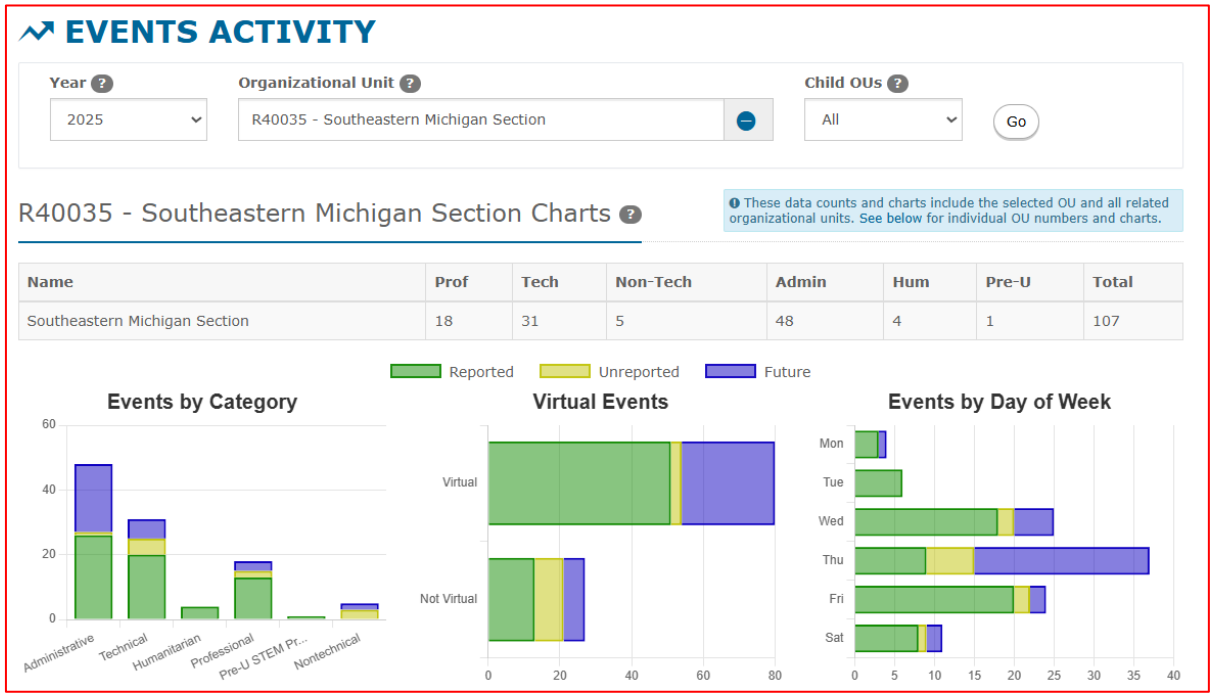
We have scheduled a number of events during April by various chapters.

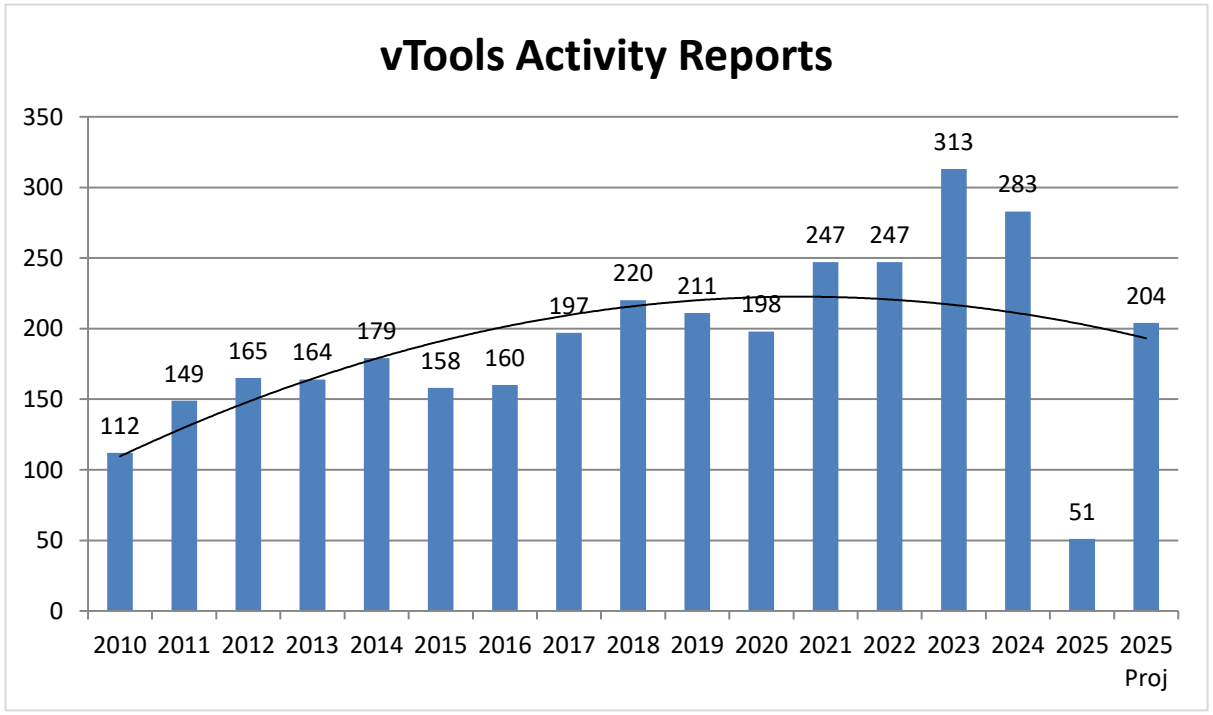
Volunteering:

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

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

Our YTD performance (from Vtools) or https://events.vtools.ieee.org/tego_/events/activity:





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 are already planning 2025 events for senior elevation PLUS membership development.

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 <u>any</u> 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

Welcome Ch 3 Officers

Victor Manske, Chair

Victor Manske is an accomplished engineer, innovator, and leader in aerospace, electronic systems, communications, and robotics. With expertise in embedded systems, electronics design, and automation, he has decades of experience in research, development, and leadership. He drives technological advancements in aviation, space & sensor systems, secure communications, robotics, and AI, fostering collaboration among researchers and industry leaders. His leadership supports educational programs, networking events, and technical workshops. Victor has contributed to projects in aerospace, nuclear energy, IoT, and telecommunications. He holds dual Bachelor of Science degrees in Electrical / Electronic Engineering and Computer Network and Systems from Ferris State University. In his free time, he enjoys mentoring future engineers and participating in the Drone Racing League, applying AI algorithms to let drones operate faster and autonomously.

Susan M. Brooks, CAM
Vice Chair

Susan was the Senior Director of IEEE Corporate Governance and began her IEEE career as the Executive Director of the IEEE Communications Society. She was formerly the Director of Customer Advocacy, Training, and Technical Publications for Motorola's Home and Networks Mobility business unit and prior to that was the CEO of the Girl Scouts Heart of New Jersey council. Susan began her career at Michigan Bell selling and implementing complex network and PBX solutions to General Motors/EDS and Hughes Electronics, including AT&T's first DS3 COLA, first DS3 CPA, GM's 100+ location SDN, and a test site customer premise #1PSS X.25 packet switch. Her AT&T roles spanned marketing, WorldNet and DSL customer care, training, contract negotiations, broadband telephony, and the retail market launch of AT&T's CallVantage VoIP product. Susan holds a B.A. in English and a second B.A. with a double major in Advertising and Communication, all from Michigan State University. She earned her Master's degree in Organizational Management (University of Phoenix) and completed both the Duke University Fuqua School of Business Advanced Management Program and AT&T's Advanced ManagementProgram. She and her husband reside in East Lansing and have twins (daughter and son), two grandchildren, and two grand cats.

Kimball Williams, Secretary

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 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.

Nathanael Bewick, Treasurer

Received an EET degree, with honors, attending night school at Madison College in in 2020, and an BSEE degree, with honors, from the Milwaukee School of Engineering in 2022.
Employed as a level II, RF Design Engineer at Spectrum Control since 2022 working on passive electromagnetic component design.
Outside of electrical engineering, he attends classes in glass casting, and cold worked glass and enjoys exploring the intersection of light, and glass, through 2D and 3D sculpture.

Welcome Ch 4 Officers

Aline Eid – Chair

Aline Eid is an Assistant Professor in the Department of Electrical and Computer Engineering at the University of Michigan, Ann Arbor. She earned her Ph.D. in ECE from Georgia Tech in 2021 and her Master's degree from the American University of Beirut. Aline previously worked as a Postdoctoral Associate at the MIT Media Lab and interned at Google in the wearable/AR/VR and ATAP groups. She has authored over 70 papers and received more than 20 awards, including the 2020 IEEE MTT-S Graduate Fellowship and best paper awards in IEEE AP-S and RFID. Her research focuses on ultra-low power wireless sensing, backscatter and 5G communications, and wireless power transfer. Aline is passionate about advancing IEEE's mission and is eager to contribute to the organization by becoming the IEEE Chapter IV Chair, fostering innovation and collaboration across diverse fields.

Steve Young
Vice Chair

Steve Young received his B.S. degree in electrical engineering from Stanford University in 2003; the M.S.E.S degree in mechanical engineering from the Naval Postgraduate School in Monterey, CA, USA, in 2006; and the Ph.D. in applied physics from the University of Michigan, Ann Arbor in 2016. From 2003 to 2009, he served as an Instrumentation and Control Systems Engineer in the U.S. Navy Naval Reactors Program, Washington, D.C. Since 2016, he has been the President of Xondas, Inc., an electromagnetics research and consultancy company in Ann Arbor, MI. In 2018, he joined the Department of Electrical Engineering and Computer Science at the University of Michigan, Ann Arbor as a Postdoctoral Fellow and, later, Assistant Research Scientist. His current research interests include electromagnetic meta-surfaces, dielectric structures, electrically small antennas, wireless power transfer, time-varying structures, and nonlinear electromagnetics.

Kimball Williams
Secretary

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 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.

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Welcome Ch 5 Officers

Sharan Kalwani – Chair

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 has published a book on the topic: "UNIX and TCP/IP network security" " ISBN: 1581430213; and is now working on his second text, about a new computer programming language. 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 IEEE activities.

S Ramesh, Vice Chair

Ramesh has been since May 2005 part of the GM Research and development Group. Prior to that he was for 16 years at the Indian Institute of Technology, Bombay.

George Pappas, Secretary

Dr. George Pappas is an Assistant Professor in the Department of Electrical and Computer Engineering (ECE) at Lawrence Technological University and currently working with several graduate and undergraduate students in research in a multitude of developing areas ranging from automotive to medical applications. Dr. Pappas is currently the Director of Master of Science (MS) in Artificial Intelligence (AI) program. He has over 15 years of teaching, research and work experience in embedded systems and high-performance computing. Artificial Intelligence (AI) in Autonomous vehicles, employ machine-learning techniques to collect, analyze and transfer data for safer driving experience. Also, he investigates encryption and optimization algorithms and security of the transfer of electronic medical data using wireless cellular communication systems for evaluation, diagnosis, and treatment of patients in remote locations. Some of the research interests are: Artificial Intelligence (AI) within radiology, specifically computerized tomography (CT) image reconstruction. Precise data analytics for pathology images. Virtual Reality (VR) in medical applications, Artificial Intelligence (AI) to aid diagnostics, Telemedicine, Medical and Health Informatics, Wireless implantable sensors and biomedical Transducers.

Subra Ganesan, Treasurer

Dr. Subramaniam Ganesan, is a Professor in the Department of Computer Science and Engineering, Oakland University, Rochester, MI 48309, USA. He has over 25 years of teaching and research experience in Digital Systems. He was the chair of the department from 1991 to 1998. He received his Masters and PhD from the Indian Institute of Science, Bangalore, India. He worked at National Aeronautical Laboratory, India, Ruhr University, Germany, Concordia University, Canada and Western Michigan University before joining Oakland University. He has published over 35 journal papers, 100 papers in conference proceedings and 3 books. He is a Life member of IEEE, IEEE Computer Society Distinguished Visiting Speaker, member of ACM and council member of ISPE. He has organized several international conferences on Concurrent Engineering and workshops on Xilinc DSP, IEEE EIT at Oakland University.

In the recent years he is working on automotive applications like: DSP based electric power steering, Fuzzy idle-speed control, road scene analysis for intelligent vehicles, real time lossless image compression, mobile communication protocol, application of wavelet transform and Hough Transforms. He does consulting for Texas Instruments, Motorola, Chrysler, GM and others. His research interests are in real time system, parallel architectures and computer systems for signal processing. More details about him can be obtained from: **www.secs.oakland.edu/~ganesan.**

Section Focus

The IEEE SEM Executive Committee Officers have reaffirmed the Mission and Goals of the section with the guidance of the Region 4 leadership. The Mission and Goals conform to those of IEEE worldwide.

You have probably seen the Mission and Goals before. However, it is important to keep these clearly in mind and remind ourselves often that this is what we are about and what we are trying to accomplish.

Section Mission

Inspire – Enable – Empower and Engage Members of IEEE at the local level.

For the purpose of:

- Fulfilling the mission of IEEE to foster technological innovation and excellence for the benefit of humanity,
- Enhancing the members' growth and development throughout their life cycle, and
- Providing a professional home.

Section Goals

- Increase member engagement,
- Improve relationships with and among members,
- Increase operational efficiency and effectiveness, within the section and its interfaces,
- Enhance collaboration – serve as the local face of IEEE to the community,
- Increase membership, and
- Ensure the collection of appropriate information necessary to assist the IEEE to become a data driven organization.

It is now the task of the section leadership to guide and coach all section officers and elements to focus their activities on achieving those goals.

Officer Training

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

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

Turn OFF your pop up blocker if you don't see it load or download.

Blank Titles (Links) are still in development.

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

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

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Welcome Ch 14 Officers

Victor Manske, Chair

Victor Manske is an accomplished engineer, innovator, and leader in aerospace, electronic systems, communications, and robotics. With expertise in embedded systems, electronics design, and automation, he has decades of experience in research, development, and leadership. He drives technological advancements in aviation, space & sensor systems, secure communications, robotics, and AI, fostering collaboration among researchers and industry leaders. His leadership supports educational programs, networking events, and technical workshops. Victor has contributed to projects in aerospace, nuclear energy, IoT, and telecommunications. He holds dual Bachelor of Science degrees in Electrical / Electronic Engineering and Computer Network and Systems from Ferris State University. In his free time, he enjoys mentoring future engineers and participating in the Drone Racing League, applying AI algorithms to let drones operate faster and autonomously.

CJ Chung, Treasurer

ChanJin “CJ” Chung attended HongIk University in Seoul, Korea, where he earned a B.S. Computer Science degree. While he was working for Electronics and Telecommunication Research Institute (ETRI) from 1982 to 1992, he was involved in developing TDX switching systems that became later the base system for the first commercialized CDMA system in the world. Chung also worked as a visiting researcher for a year to develop AXE switching system software modules for L.M. Ericsson in Sweden in 1984. He received his Ph.D. in Computer Science from Wayne State University in 1997. His doctoral research was the development of a self-adaptive system motivated by cultural evolution process, which was then applied to solve various optimization problems. His research interests include evolutionary computation, cultural algorithms, evolutionary-neuro-fuzzy algorithms, evolutionary robotics, autonomous vehicles, cyber physical systems, software engineering for robotics, and robotics in education. Currently, he leads ACTor (Autonomous Campus Transport/Taxi) project. Prof. Chung founded a computer science oriented robot competition, Robofest (www.robofest.net). Over 20,000 students from 14 States in the US and 17 countries have competed in Robofest since 1999. He launched numerous STEM programs such as RoboParade in 2006, VCC (Vision Centric robot Challenge) in 2007, and GRAF (Global Robotics Art Festival) in 2013. He is a faculty advisor of Lawrence Tech’s IGVC (Intelligent Ground Vehicle Competition) teams. His BigBoot II team won Grand Award with LESCOE Cup in 2016. He served as the USA National Organizer for World Robot Olympiad in 2014 and 2015. He received The Mary E. and Richard E. Marburger Distinguished Achievement Award in 2007 at LTU. In 2011, IEEE USA honored Dr. Chung with its citation of honor award for his leadership in founding the Robofest competition to inspire interest in engineering among pre-college students. You can also find him at http://qbx6.ltu.edu/chung

Devson Butani, Secretary

Devson Butani serves as the Robotics Research Lab Manager at Lawrence Technological University's Computer Science and AI Robotics Lab, where he integrates cutting-edge AI with autonomous robotics systems. With a background in Mechanical Engineering and currently pursuing an MS in Computer Science, he has extensive experience designing mobile robots and specializes in developing perception systems for autonomous vehicles. His expertise spans designing and programming application-based mobile robots, 3D printing custom components, and implementing ROS-based solutions. His multidisciplinary approach uniquely positions him at the intersection of mechanical and electrical engineering, computer science, and artificial intelligence—creating robots that solve real-world problems and expanding the boundaries of autonomous technology.

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)
IEEE SEM Chapter 4 Admin Meeting : Southeastern Michigan Chap, AP03/ED15/MTT17/PHO36	2025-04-02	1200 Hours
Aerospace & Electronic Systems Society and Communications Society Chapter 3: Administrative Committee Meeting : Southeastern Michigan Section	2025-04-02	1830 Hours
RF Plasma Cathodes and Other Research Activities in the Plasma Propulsion Group	2025-04-09	1500 Hours
Ch8: AdCom Teleconference : Southeastern Michigan Section Chapter, EMC27	2025-04-10	1100 Hours
Cybersecurity, AI, and Human Rights: A Societal Perspective	2025-04-10	1300 Hours
SEM Section ExCom Monthly Meeting (virtual) For APRIL 2025 : Southeastern Michigan Section	2025-04-10	1830 Hours
Documentary Night: Charles Proteus Steinmetz	2025-04-11	1800 Hours
PACE: Introduction to Root Cause Analysis : Southeastern Michigan Section Chapter, C16	2025-04-12	0845 Hours
Seminar @Wayne State on Medical Acoustics for Global Health, Imaging, and Clinical Translation	2025-04-16	1300 Hours
Battery Platform Development for Electric Vehicles : Southeastern Michigan Section Chapter, VT06	2025-04-18	1600 Hours
Documentary Night: J Robert Oppenheimer	2025-04-22	1800 Hours
Documentary Night: Claude Shannon (The Bit Player)	2025-04-30	1800 Hours

Tech Activities Report

As of MARCH 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	0	Life Members	0	0
WIE	0	0	0	3	0	0	Women In Engineering	0	3
YP	0	0	0	1	0	0	Young Professionals	0	1
1	0	0	0	0	0	0	Circuits & Systems, Signal Proc., Info Th.	0	0
2	0	0	0	1	0	0	Vehicular Technology	0	1
3	0	0	0	1	0	0	Aerospace & Elec. Sys., Communications	0	1
4	0	0	0	1	1	0	Trident (Ant, Elect Dev., uWave, Photo)	0	2
5	32	1	8	3	9	2	Computers	2	22
6	0	0	0	0	0	0	Geoscience & Remote Sensing	0	0
7	0	0	0	2	0	1	Power Engineering, Industrial App.	0	3
8	29	14	2	2	0	0	Electromagnetic Compatibility (EMC)	2	4
9	0	0	0	1	0	0	Power Electronics, Industrial Electronics	0	1
10	0	0	0	0	0	0	Engineering Management	0	0
11	14	0	1	0	0	0	Eng. in Medicine & Biology	0	1
12	0	0	0	0	0	0	Control Systems	0	0
13	0	0	0	0	0	0	Education	0	0
14	0	0	0	0	0	0	Robotics & Automation	0	0
15	0	0	0	0	0	0	Nuclear Plasma Science Society	0	0
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	6	1	1	SEM (Section)	1	9
Tot	96	16	12	22	12	5	NOTE: Highlight Green = Active	6	51
		17%					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)

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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If you can keep it!

Outside Independence Hall when the Constitutional Convention of 1787 ended, a certain lady,
'Mrs. Powel of Philadelphia' asked Benjamin Franklin, "Well, Doctor, what have we got, a republic or a monarchy?"
With no hesitation whatsoever, Franklin responded, "A republic, if you can keep it."

Ben Franklin was not being snippy or sarcastic. Down through the years that simple phrase has been a reminder that a democracy, and especially a republic democracy (i.e. a 'representative' government whose representatives' are elected by the governed people.) can easily devolve into an autocratic state if the 'people' fail to take part in selecting their 'elected' leaders (voting) and follow and monitor what their government does once those leaders take office.

IEEE Elections:
I have spent entirely too much of my personal time in the past few months working with our Geo-units coaxing and arranging elections of our officers who will be responsible for leading our IEEE Section into 2025. Almost all of my January and February has been devoted to 'make-up' elections for 10 of our Geo-units that completely failed to even reach out to their membership for candidates in 2024.

When I made 'calls' for volunteers, I received dismal responses.
From one 'unit' with 394 members, I had only one (1) volunteer to run for election.
Also, when I compiled the ballot, the IEEE system told me that there were only 328 registered voters. What that means was, (394 – 328 = 66 or 16% have 'opted out' of participating in any local IEEE activities – such as elections.)

After the election for the Geo-unit above was concluded, the tracking software told me that only 4% of eligible voters exercised their franchise – i.e. 'voted'!
That is disgraceful!

In order for a democratic republic to function, in other words, be '*of the people, by the people and for the people*', 'the people' must take an active part in selecting their representatives, and take an active part in monitoring their activities. If they don't, the 'representatives' will either slack off and not do their jobs on behalf of 'the people' or only do those things that benefit themselves.
That is how we can 'lose' a republic and find ourselves under a dictatorship.

The saying 'Price of Liberty is eternal vigilance' is generally attributed to Thomas Jefferson. And when a people, any people, cease to watch what their 'representatives' are doing. That is when they will fulfil Ben Franklin's caution of '…If you can keep it!'.

In the delightful movie 'Dave', the lead tells his audience; "I forgot that I was hired to do a job for you and that it was just a temp job at that."

If someone does not vote in elections, or follow what their leadership is doing, or comment when they see something their leadership should not be doing, or they don't agree with and are looking for someone to blame for why things are going wrong, there is a simple action they can take to see who is responsible if things are not going right:

1. Go into the bathroom,
2. Grab both sides of the bathroom sink,
3. Look straight ahead.

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A View from Afar

Looking up:

Thanks to the University of Michigan Lowbrow Astronomers for this look at the Moon on March 3/14 between 2:15 and 3:45am when the earth shadow covered the moon.

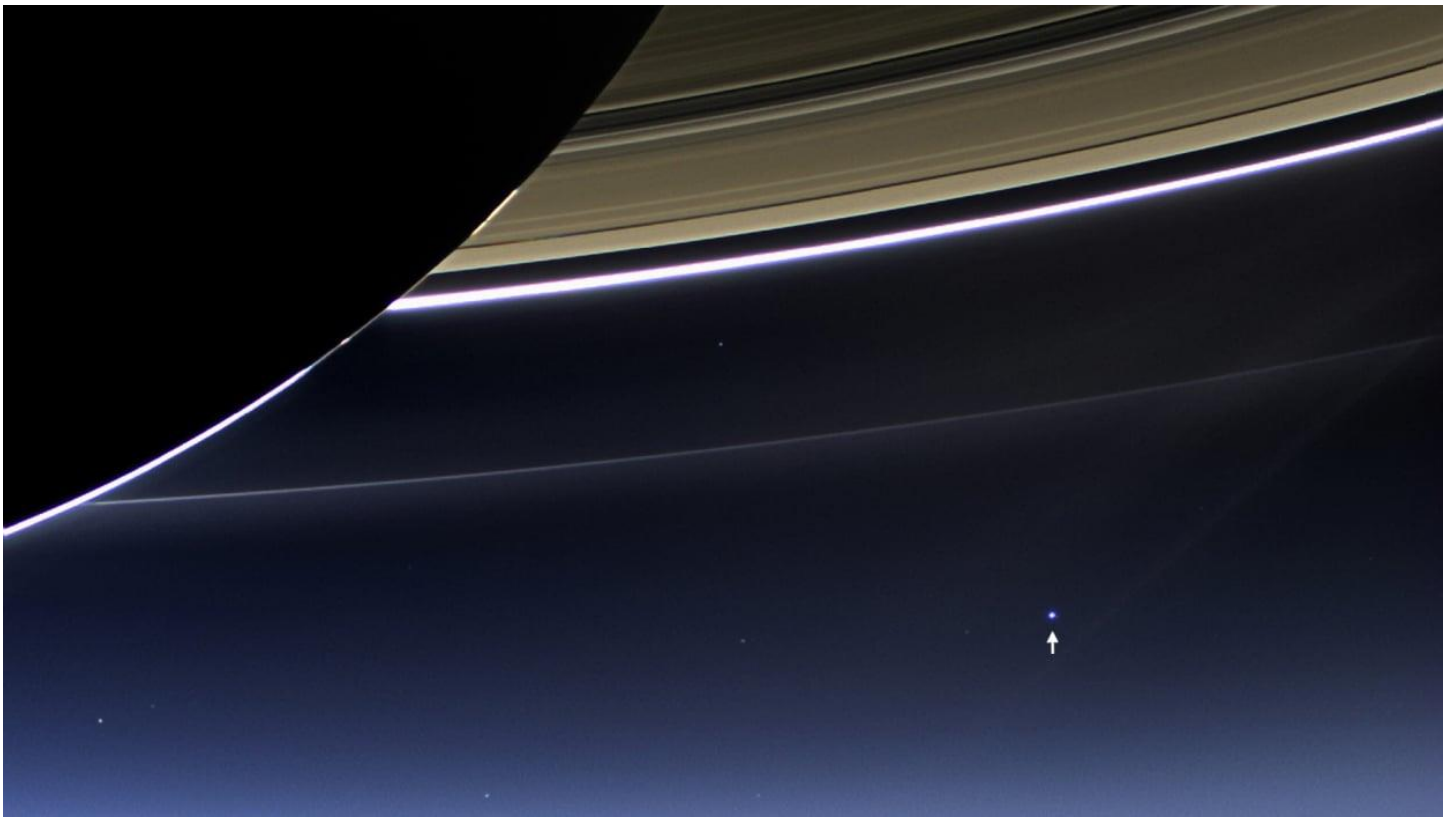
This photo's not often seen due to the heavy light pollution in cities is the observation of the totally eclipsed moon with starlight behind it. This is one of those images possible while out near Caseville at a boat launch overlooking Saginaw Bay.

Looking Back:

This 'alternate' view was supplied by cameras on board the "Firefly" Aerospace's Blue Ghost lander which touched down at Mare Crisium, a lava-covered basin on the moon's near side.

As mankind establishes its first 'extra-terrestrial' colony on the Moon and then Mars, we will look back to our birth world for its help, its materials, its culture. Let's hope we leave our differences behind.

Looking way back!



This photo of the Earth (just above the small arrow) was taken by NASA's Cassini spacecraft from 900 million miles away.

Views like this should make us stop and wonder whether mankind should evolve to become a Star-Faring race and inherit the universe.

If we can't learn to get along with each other when we all have similar backgrounds, cultures and experiences, and live on the same planet, what chance would we have when we meet '*Others*' who are truly ALIAN?

University of Michigan Lowbrow Astronomers
https://websites.umich.edu/~lowbrows/theclub/

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See A Penny

See a penny:

Yesterday I stepped across the street and looked down and noticed something shining on the ground at my feet. A dime! Being a natural skinflint and money grubber, I stopped down and picked it up. "Only nine more to go, and it will equal a dollar!" crossed my mind and I wondered about the perversity of human nature and our relationship with what society declares what is 'worth' and what has value.

The child's rhyme "See a penny, pick it up, and all the day you'll have good luck." came back to me and I wondered if that dime meant my day just became filled with ten times 'good luck', or was it just 10 cents? I recall another saying that goes something like, "it's better to be born lucky than rich", which suggests that perhaps picking up a penny is just as good as finding a $100 dollar bill.

On the other hand, perhaps the rhyme "See a penny…." meant that the act of bending down to pick up something on the ground created a flexing of muscles and joints that helped improve overall health and vitality. (Come to think of it, at my age [83] any bending down and straightening up tends to be a good thing for old bones and joints in the continuing fight against arthritis.) Philosophically, I should be less concerned about increasing my overall financial wealth than about getting a bit more exercise.

At this time, a new government administration has taken a bold step into the future by riding the government of anything and anyone they can in order to 'control costs'. The overriding theory appears to be that if we rid ourselves of anything that costs money, the result will be that we will be 'richer' in the end. In other words, we can 'save' ourselves into a condition of prosperity. (I notice, with some skepticism, that this activity does not extend to reducing the wages of the people who are currently firing all those 'unnecessary' employees.)

I seem to recall a mathematical principle that two sides of any equation should balance. If our objective is to improve our national financial condition, can we do that by simply saving money? What about the other side of the equation? Some of the 'savings' proposed are eliminating funding for organizations that have consistently provided jobs, and research that developed new technologies resulting in completely new industries and new products which have driven our national income upward. If we are eliminating those sources of new developments and new jobs, where will we find employment for all those 'unnecessary employes' we are currently cutting out of the system?

I am not an economist. I am just an engineer who watches how systems work and wonder what is going on in the minds of people who seem to believe that their 'Actions have no Reactions'. Somehow, I don't think that economics is a discipline that can violate Newtons third law without any consequences.
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April Fool!

On the Tolerance of Resistors in Parallel

Julian Jove

Calculating the equivalent resistance of resistors in parallel is a common task in any electronics work. Most of us know the difference between impedance and admittance parameters when doing electrical network analyses, but what about resistor tolerances? For example, paralleling two resistors, *R1* with 1% tolerance and *R2* with 5% tolerance, we find that we can apply the Product Over the Sum Rule that we learned in First Grade but later forgot when we became a radio astronomer. The tolerance of our two parallel resistors in this example simply is

$$R_{||}(Tol) = \frac{R_1(Tol) \times R_2(Tol)}{R_1(Tol) + R_2(Tol)} = \frac{1\% \times 5\%}{5\% + 1\%} = \frac{5\%}{6\%} = \frac{5\%}{6} = 0.833\%$$

We observe that the tolerance of the resistor combination (that is, the *equivalent resistance*) is lower than the tolerance of the best resistor. Note that we had to invoke the *wind-over-water* Kelvin-Helmholtz Instability Criterion in order to divide a percentage number by an ordinary number. We can extend this concept to any parallel combination of resistors using Admittance Tolerance Principles. Let us examine the general case and then work an example:

$$\frac{1}{R_{||}(Tol)} = \frac{1}{R_1(Tol)} + \frac{1}{R_2(Tol)} + \ldots + \frac{1}{R_n(Tol)}$$

Say we have four resistors with tolerances *R1(1%)*, *R2(2%)*, *R3(2%)*, and *R4(10%)*. For this we find that

$$\frac{1}{R_{||}(Tol)} = \frac{1}{R_1(Tol)} + \frac{1}{R_2(Tol)} + \frac{1}{R_3(Tol)} + \frac{1}{R_4(Tol)} = \frac{1}{1\%} + \frac{1}{2\%} + \frac{1}{2\%} + \frac{1}{10\%}$$

$$\frac{1}{R_{||}(Tol)} = \frac{1}{\%} + \frac{0.5}{\%} + \frac{0.5}{\%} + \frac{0.1}{\%} = \frac{2.1}{\%}$$

and

$$R_{||}(Tol) = \frac{\%}{2.1} = 0.4762\%$$

Again, we invoked the Kelvin-Helmholtz Instability Criterion. Also note that the Inversion Principle came into play here, and that the resulting tolerance is not lower than the best resistor. This obviously can be explained by the inescapable Johnson Noise Anomaly, which puts the resistors in a thermally-permissive, current-robbing, shoulder-fired, gas-operated state.

In spite of the pseudo-complications of various criteria, principles and anomalies, the above-described concept has far-reaching applications: We can get any tolerance we want – as small or as big as we want – simply by selecting resistors with the appropriate tolerances and wiring them in parallel.

....

QED (loosely translated, *only a complete fool would believe this nonsense*), this 1st day of April 2020.

Reprinted by permission:
Radio Astronomy: Journal of the Society of Amateur Radio Astronomers - Mar-Apr 2020

This Month in April

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

April 1st, 1932 - Birth of **Norman Abramson**, ***died 1 December 2020***.
American computer scientist who created ALOHANET, the first modern data network, which formed the basis of the protocols essential in Ethernet now in wide use. It opened in 1970, operating at 9600 bits per second, using radio to provide a wireless packet-switched data network between several Hawaii islands. Its innovations included the first packet radio sensors, the first packet radio repeaters, the first satellite packet network and the first radio access to the Internet. Abramson's U.S. patents include the first patent for CRC redundancy checks to provide data error control technique (No. 3,114,130), and the first patent issued for the design of burst errors in digital systems (No. 3,163,84)

April 4th 1826 - Birth of **Zénobe-Théophile Gramme*, died 20 Jan 1901 at age 74.***
Belgian-born French electrical engineer and inventor (1869) of the Gramme dynamo, a continuous-current electrical generator that gave principal impetus to the development of electric power. In 1870 he invented a continuous-current dynamo with a ring armature (a ring of soft iron around which were placed insulated copper coils). This produced much higher voltages than other dynamos of the time and was the first high-voltage direct-current generator practical for mass production and distribution. Driven by steam-engines, they were immediately successful and were used for a variety of purposes, including factory lighting, electroplating, and lighthouses. With these dynamos, the era of large-scale electrical engineering began.

April 4th, 1823; date of birth of **Carl Wilhelm Siemens**, died ***November 19, 1883***.
German-British inventor and electrical engineer, who revolutionized the steel-making and glass-making industries, is best remembered for using the Siemens-Martin process to create the regenerative furnace. His achievements earned him accolades such as the Albert Medal. He was a Fellow of The Royal Society and was knighted shortly before his death.

April 5th, 1949; Date of birth of **Judith Resnick**, died ***January 28, 1986***.
Judith Resnik was an American software engineer, electrical engineer, pilot, biomedical engineer, and NASA astronaut. She was the fourth woman and the first Jewish woman in space, logging 145 hours in orbit. Resnik, who died during the Space Shuttle Challenger disaster in 1986, received several posthumous honors. Judith Resnik's life and career inspired the 1990 TV movie Challenger.

April 6th 1903 - Birth of **Harold E. Edgerton*, died 4 Jan 1990 at age 86.***
Harold Eugene Edgerton was an American engineer and ultra-high-speed photographer who, as a graduate at the Massachusetts Institute of Technology (1926), used a strobe light in his studies, which by 1931, he applied the strobe to ultra-high-speed photography. He formed a company (1947) to specialize in electronic technology, which led to inventing the Rapatronic camera, capable of photographing US nuclear bomb test explosions from a distance of 7 miles. Throughout his career he applied high-speed photography as a tool in various scientific applications. He also developed sonar to study the ocean floor. Using side-scan sonar, in 1973, he helped locate the sunken Civil War battleship USS Monitor, lost since 1862, off Cape Hatteras, NC.

April 9th, 1865; Date of birth of **Charles Proteus Steinmetz**, died ***October 26, 1923***.
Though German-born American mathematician and engineer Charles Proteus Steinmetz suffered from a deformed back since childhood, he excelled in math, physics, and classical literature. His ideas on alternating current (AC) systems initiated the electrical era in the US. By the time he died, he had over 200 patents under his name. *{{Register for the documentary screening – find it at our section website under the calendar portion}}*

April 9th,1919; Birth of **J. Presper Eckert Jr*. died 3 Jun 1995 at age 76.***
American engineer and inventor of the first general-purpose electronic computer, a digital machine that was the prototype for most computers in use today. In 1946, Eckert with John W. Mauchly fulfilled a government contract to build a digital computer to be used by the U.S. Army for military calculations. They named it ENIAC for Electronic Numerical Integrator and Computer. By 1949, they had started a manufacturing company for their BINAC computer. This was followed by a business oriented computer, UNIVAC (1951), which was put to many uses and spurred the growth of the computer industry. By 1966 Eckert held 85 patents, mostly for electronic inventions.

April 13th, 1892; date of birth of **Robert Watson-Watt**, died ***December 5, 1973***.
Robert Watson-Watt, often called the father of radar was a British physicist who did pioneering work in radio direction finding (RDF) and radar technology. He developed high-frequency direction finding (huff-duff) as a system for locating

lightning. It was later introduced during the Second World War and played an instrumental role in intelligence, mainly in catching enemy radios while they transmitted.

April 14th,1898; Date of birth of **Harold Stephen Black,** ***died 11 Dec 1983 at age 85.***
American electrical engineer who discovered and developed the negative-feedback principle, in which amplification output is fed back into the input, thus producing nearly distortion less and steady amplification. In 1921, Black joined the forerunner of Bell Labs, in New York City, working on elimination of distortion. After six years of persistence, Black conceived his negative feedback amplifier in a flash while commuting to work aboard a ferry. Basically, the concept involved feeding systems output back to the input as a method of system control. The principle has found widespread applications in electronics, including industrial, military, and consumer electronics, weaponry, analog computers, and such biomechanical devices as pacemakers.

April 22nd, 1904; Date of birth of **J Robert Oppenheimer**, died ***February 18, 1967***.
Julius Oppenheimer was an American theoretical physicist. He was director of the Manhattan Project's Los Alamos Laboratory during World War II and is often called the "father of the atomic bomb".. *{{Register for the documentary screening – find it at our section website under the calendar portion}}*

April 28th, 1854; date of birth of **Hertha Ayrton**, died ***August 26, 1923***.
Hertha Ayrton was a British engineer, physicist, mathematician, and inventor. She is remembered for her work on electric arcs and ripple marks in sand and water, for which she was awarded the Hughes Medal by the Royal Society. As a woman in the 19th century, she had to face innumerable struggles in her career. She was also a passionate suffragist.

April 30th, 1916; Date of birth of **Claude Elwood Shannon**, died ***February 24, 2001***.
Claude Shannon was an electrical engineer, mathematician, and cryptographer. He is credited with publishing the article A Mathematical Theory of Communication which gave rise to the field of information theory. Hence, Shannon is considered the father of information theory. He is also credited with founding digital circuit design theory. During World War II, he contributed to the field of cryptanalysis. Rodney Brooks declared that Shannon was the 20th century engineer who contributed the most to 21st century technologies. His achievements are said to be on par with those of Albert Einstein and Sir Isaac Newton in their fields. *{{Register for the documentary screening – find it at our section website under the calendar portion}}*

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

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.

Shakti Chavan

With over 15 years of experience in automotive product development, specializing in vehicle safety, I have a proven track record of leading safety development for electric, hybrid, and ICE vehicles. My expertise encompasses advanced simulation and modeling techniques, including transient dynamic non-linear finite element solvers and autonomous driving simulators, crucial for developing and testing cutting-edge automotive technologies. My doctoral research at Wayne State University focused on safety and comfort in Level 3 autonomous vehicles, culminating in a dissertation exploring a novel takeover framework designed to enhance both safety and the driving experience.

Currently, as a Project Performance Engineer at Stellantis NV, I lead complex crash safety projects, managing all phases from conception to completion, ensuring compliance with global safety regulations, and spearheading cross-functional collaboration to design and develop safe vehicles.

Lakshmi Prasad Bhatta

Mr. Bhatta is a Vehicle Safety Engineer with extensive experience in developing advanced safety systems to enhance occupant and road user safety, ensuring compliance with global regulations (FMVSS, ECE). He specializes in multi-physics simulations, using FEA and AI tools to optimize crash protection (structural integrity, airbags, seatbelts) and crash avoidance (AI, ADAS, ADS) across diverse platforms, including EVs.

As Manager of CAE at Mahindra, he leads virtual validation for vehicle safety performance. Previously, at Stellantis, he led safety development for NAFTA and LATAM vehicles, conceptualizing AEB and enhancing safety performance for Jeep and RAM vehicles, contributing to IIHS Top Safety Pick awards and NCAP 5-star ratings.

Beyond engineering, he actively contributes to the automotive industry by evaluating standard drafts as a member of USTAG to ISO committees and reviewing technical papers for SAE and IEEE. He mentors STEM students and serves as a judge for FIRST Robotics and BAJA SAE competitions. His expertise has earned him key judging roles for the Globee Awards and the Automotive Testing Technology International Awards. He holds a Postgraduate Certification in AI & ML from The University of Texas at Austin and a Master's degree in Automobile Engineering from The University of Mumbai.

Robofest Report

LAWRENCE TECHNOLOGICAL UNIVERSITY ROBOFEST

Robofest eNewsletter 3-28-25

(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
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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

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.

Showing Up

I recently stumbled upon this article which I had written back in 2011 when I was the SEM Section Chair and was struck the situation in this article still maintained a concern today! Have we made no progress in this area at all?
Then I wondered about our political system, and how many of our elected officials seem to believe that their 'office' should be theirs 'by right' and once elected, they just seem to feel that all they need to do is 'warm the seat' in which they sit.
(We have some Geo-unit officers who don't show up for Section meetings….ever!)

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

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

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

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

No-no one else will do it. The project will fail. The activity will stall. The progress that might have been accomplished will crash and burn!

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

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

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

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

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

Our Section Secretary compiles all the reports together and publishes them before each teleconference so that all Section elements have a chance to catch up with everything that is going on in the Section before the teleconference begins. As a result, when we hold the teleconference, **we don't have to "read" our reports into the record…they are already there**. We also then have sufficient time to discuss any problems or concerns that need detailed explanation and or

discussion and debate. If a vote is needed, we can do it then, and approve an action (such as a funding request) that same day.

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

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

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

Our next Section virtual ExCom meeting takes place on Thursday **April 10th**, and the next 'Hybrid' (Both face-to-fac and 'virtual') will be on **June 12** with registration at 5PM, dinner provided, and the working business meeting to begin at 5:30PM.

We look forward to seeing you there. **Please 'show up'.**

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

Lady with a Torch

The New Colossus
Not like the brazen giant of Greek fame,
With conquering limbs astride from land to land;
Here at our sea-washed, sunset gates shall stand
A mighty woman with a torch, whose flames
the imprisoned lightning, and her name
Mother of Exiles.
From her beacon-hand
Glows world-wide welcome; her mild eyes command
The air-bridged harbor that twin cities frame.
"Keep, ancient lands, your storied pomp!" cries she
With silent lips. "Give me your tired, your poor,
Your huddled masses yearning to breathe free,
The wretched refuse of your teeming shore.
Send these, the homeless, tempest-tost to me,
I lift my lamp beside the golden door!"

Emma Lazarus
November 2, 1883

I have trouble reading those words of Emma Lazarus without sheading a silent tear.

When I first read this poem in grade school, and learned its significance, and its location, and understood that every new immigrant to our country was greeted with this poem on the base of the Statue of Liberty in New York harbor.

To me this was the essence of America. The land of immigrants.
The “Melting Pot’ as it was often referred to in those days.
Then, as now, people come from all over this planet to a place where we espouse the ideals of democracy and freedom.
Yet we still struggle to honor those ideals in our everyday life.

We are still learning that lesson every day. We did no better in our treatment of the Native American Indian tribes with forced removal from the lands they had occupied for thousands of years. Many times, this was ‘justified’ when it was learned that valuable minerals were present on those lands, or when political pressure to provide land for new ‘non-Indian’ settlers prompted the US Army to ‘clear the land’.

We did not seem to learn any lessons then and repeated the mistake during WWII when we unjustly imprisoned many Japanese American citizens in camps like Manzanar War Relocation Center where two thirds of those held there were American citizens by birth, often with their Japanese relatives serving in the US military in the European and African theaters of the war.

During the build up to the Nazi Party takeover of their own country, Germany, the Nazis sought a scape goat to blame for any and all social and economic problems. In that case it was the Jewish people living and working in Germany that were used explain anything that was wrong with the society or government.

This is not a new political tactic. It was used during biblical times when the Samaritans were signaled out for similar abuse. Recently some of our political leaders have pointed to our immigrant population in a similar attempt to blame one smaller group of people for anything and everything they point to as a social or economic problem. (Sound familiar?)

One of the foundation stones of our democracy, that used to be stressed along with freedom, is responsibility. If you are free to choose for yourself, you must also accept responsibility for your actions and its consequences. The childish excuse of ‘The devil made me do it.’ makes as much sense as blaming our actions on someone else or blaming some social or economic condition on some other group of people.

America has always stood as a ‘land of opportunity’ and welcomed new immigrants. Once we called America the ‘Melting Pot’. I like the view expressed by the Russian American folk singer and actor Theodore Bikel who likened America to a kaleidoscope in which each different culture retained its collective identity and added its own ‘color’ to the blend without losing its ‘roots’.

Here in Southeastern Michigan we enjoy a wonderful mix of cultures due to the opportunities afforded by our industry and educational institutions. Over the years we have been host to new enclaves from almost every other country on the planet, and we reap the rewards of that wonderful mixture. Any day of the week we can choose to dine out in authentic restaurants from all over the world. A couple of years ago Delta Airlines noted that Detroit (not New York) has the best choices in America.

Try to greet your new neighbors in their birth language, if you are able. Make them welcome.

30

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.
These websites were checked in June 2022 and found viable.
Send details to: wavelengths@ieee-sem.org OR letters@ieee-sem.org

Michigan Institute for Plasma Science and Engineering: Seminars for the academic year:
https://mipse.umich.edu/seminars.php

Model RC Aircraft
http://www.skymasters.org

Model Rocketry
https://www.nar.org/find-a-local-club/nar-club-locator/

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

Experimental Aircraft Association
https://www.eaa.org/en/eaa/eaa-chapters/find-an-eaa-chapter

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

Science Fiction Conventions
https://2022.penguicon.org/

http://www.confusionsf.org/

Mad Science
http://www.madscience.org/

ESD PE Review Class
https://www.esd.org/programs/pe/

Maker Faire:
https://swm.makerfaire.com/

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

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

Executive Committee

The 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

Charles Steinmetz

IEEE Southeastern Michigan

Presents:

Charles "Proteus" Steinmetz: Divine Discontent

IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

This documentary/movie will look at the life and contributions of one of the most celebrated Engineers and inventors, Charles Proteus Steinmetz. Dr. Steinmetz was a legendary figure in his time inside and outside of GE. He was a Chief Consulting Engineer, a Professor at Union College, a Community Activist, and a family man. We will relive his path from a small town in Prussia to New York and his great accomplishments in Science, Engineering, Education, and contributions to Society. Running time is approximately 55 minutes. This documentary is brought to you by the IEEE Foundation who partially funded this. The trailer can be viewed at: https://vimeo.com/57064748

At Glance

- **When:**
  Date: April 11th, 2025
  Time: 06:00 – 7:30 PM (EST/EDT)
- **Where:**
  Online via Webex (to be shared only after you have a confirmed registration)
- **Audience: OPEN to ALL***

Sponsored by IEEE SE Michigan Computer Society Technical Chapter

***Pre-Registration Required!**

https://events.vtools.ieee.org/m/479004

IEEE Advancing Technology for Humanity 140 YEARS

IEEE COMPUTER SOCIETY

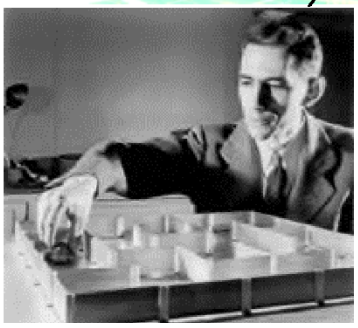
IEEE Southeastern Michigan Section

Claude E. Shannon

IEEE Southeastern Michigan

Presents:

"The Bit Player: Claude Shannon"



IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

We proudly present an IEEE foundation video documentary entitled: "The Bit Player". One of Michigan's famous sons, but not many Michiganders know about him – Indeed few know about Claude Shannon the creator of the "Information Theory". You will learn more about him and at the same time get a refresher on the mankind changing impact Claude Elmwood Shannon made on the world today. This documentary was made in 2018 and brought to you by the IEEE Foundation who partially funded this along with the IEEE Information Theory Society. The trailer for this 90-minute video can be found at https://www.youtube.com/watch?v=E3OldEtfBrE&authuser=0

***Pre-Registration Required!**

https://events.vtools.ieee.org/m/478996

IEEE Advancing Technology for Humanity 140 YEARS

IEEE Southeastern Michigan Section

IEEE COMPUTER SOCIETY

At A Glance

- **When:**
  Date: April 30th , 2025
  Time: 06:00 – 7:30 PM (EST/EDT)
- **Where:**
  Online via Webex (to be shared only after you have a confirmed registration)
- **Audience: OPEN to ALL***

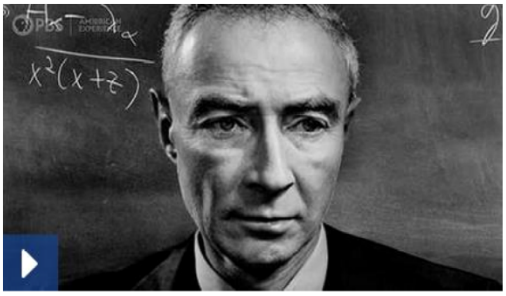
Sponsored by IEEE Southeastern Michigan Computer Society Chapter

Robert Oppenheimer

IEEE Southeastern Michigan

Presents:

"The Trials of J. Robert Oppenheimer"



IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

J. Robert Oppenheimer was brilliant, arrogant, proud, charismatic — and a national hero. Under his leadership during World War II, the United States succeeded in becoming the first nation to harness the power of nuclear energy to create the ultimate weapon of mass destruction — the atomic bomb. But after the bomb brought the war to an end, in spite of his renown and his enormous achievement, America turned on him, humiliated him, and cast him aside. The question this film asks is, "Why?"

AMERICAN EXPERIENCE presents The Trials of J. Robert Oppenheimer, featuring David Strathairn as Robert Oppenheimer. From producer David Grubin, the movie features interviews with the scientist's former colleagues and eminent scholars to present a complex and revealing portrait of one of the most important and controversial scientists of the twentieth century. The 2-hour film traces the course of Oppenheimer's life: his childhood, his adolescence, his emergence as one of America's leading nuclear physicists, his leadership of the Los Alamos laboratory, and his tragic humiliation.

***Pre-Registration Required!**

https://events.vtools.ieee.org/m/479009

At A Glance

- When:
  Date: April 22nd , 2025
  Time: 06:00 – 7:45 PM (EST/EDT)
- Where:
  Online via Webex (to be shared only after you have a confirmed registration)
- Audience: OPEN to ALL*

Sponsored by IEEE SE Michigan Computer Society Technical Chapter

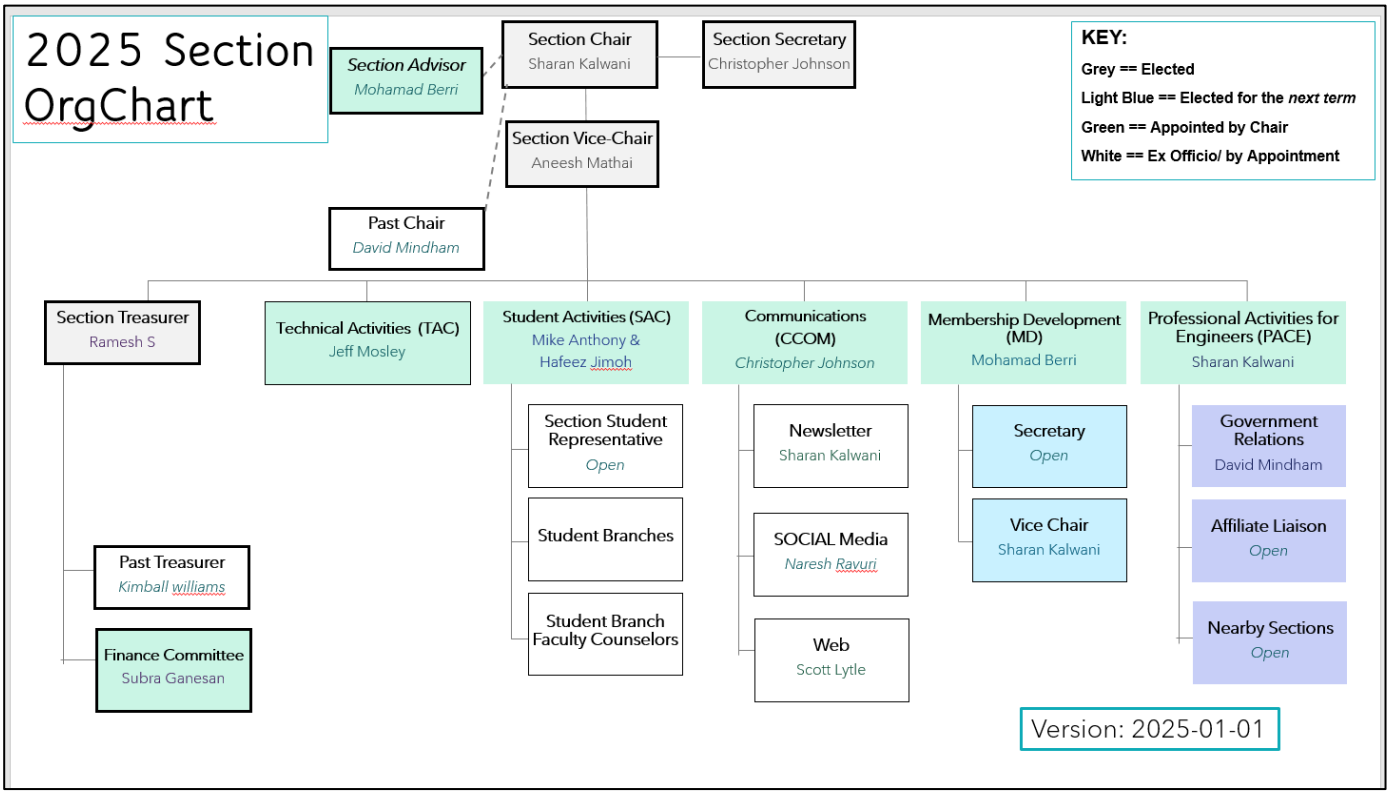
IEEE Advancing Technology for Humanity

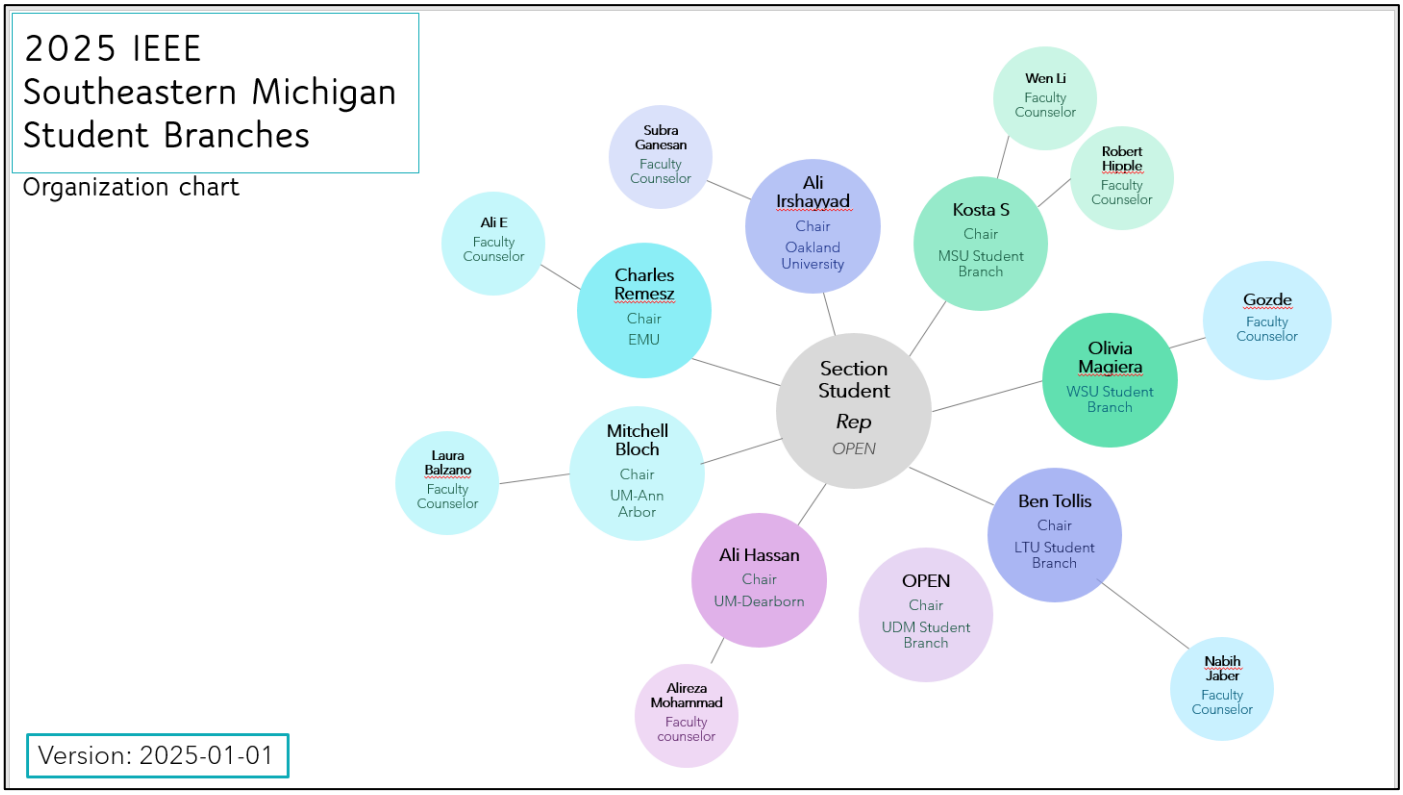
140 YEARS

IEEE Southeastern Michigan Section

IEEE COMPUTER SOCIETY

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

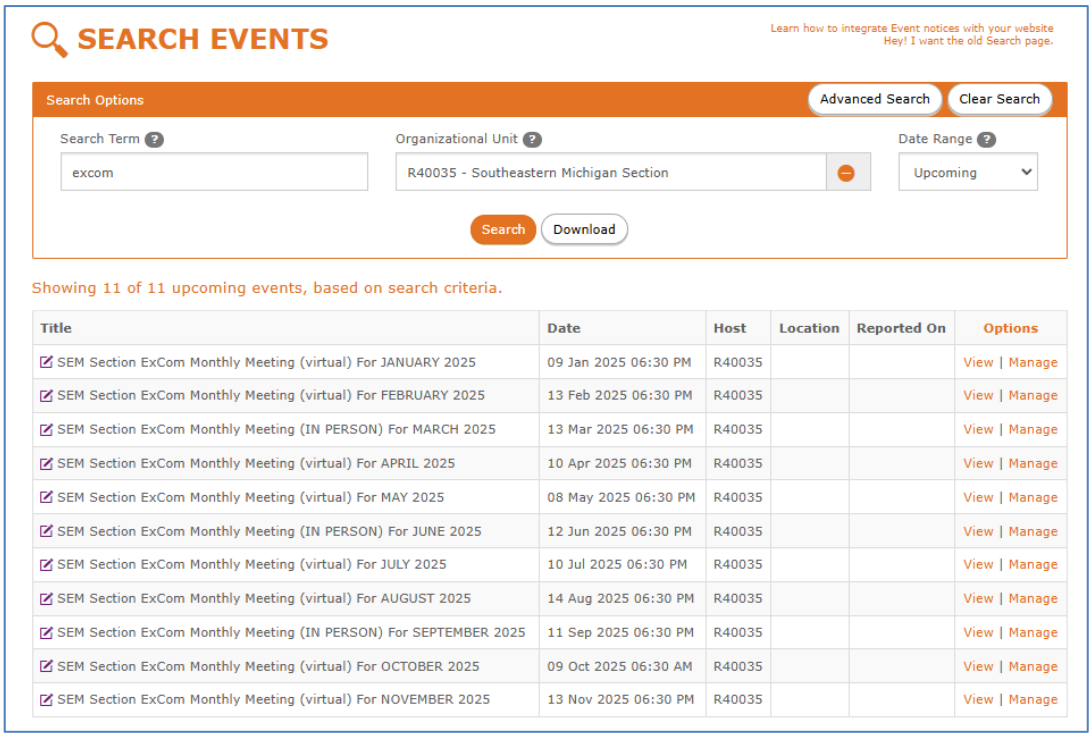
NOTE: All SEM members are invited to attend ALL ExCom (Executive Committee) meetings:
Below is the 2025 schedule for the Section ExCom meetings with links to add the events to your calendar. It is important that ***at least one person*** from each Chapter/Affinity Group attends each scheduled ExCom meeting. 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 APRIL 2025	**2025-04-10; 6:30 PM; 1 hour**
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

Where do bad rainbows go?

To prism. It's a light sentence, but it gives them time to reflect.

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