Wavelengths

IEEE Southeastern Michigan

Electrical and Electronic Engineers Creating Our Future

Volume 58 – Issue 1

Contents

Section Chair's Message

I am embarking on my 5th year as your Chair, thank you for re-electing me for the 2018 and 2019 term. Please let me know your suggestions, concerns, criticisms and compliments. I need your feedback so your elected officers and I can understand what is working well and what needs improvement.

In some areas our SEM Section has done quite well. Our budget process has established a controlled financial awareness. Our procedures have created a more stable executive organization. And, 2017 was an exciting year with great Spring and Fall conferences and many well attended Chapter and Affinity Group events.

The Spring Conference Organizing Committee is planning our event for Saturday May 5,2018. All Chapters are requested to participate with speakers or co-sponsor speakers fitting the theme of the Conference. A call for papers is being distributed. See page 13 of this newsletter.

Also schedule this year in 2018, is the Region 4 sponsored 2018 International Electro/Information Technology Conference, affectionately known as EIT 2018. Each year this rotates among the various sections belonging to R4 and this year it comes back to us after several years. Please see the flyer on page 2 for details/deadlines on submitting a paper.

Most of our Chapter and Affinity Groups have many monthly technical and leadership meetings. A couple of these groups need to perform at least the minimum duties required to keep their group affiliated with our Section and recognized by the IEEE. Chapter and Affinity Group leadership engagement is a top priority.

Being elected to a position is not the only way to volunteer here in the Southeastern Michigan IEEE. We need to fill open positions in our current organization, our Spring and Fall Conference Committees and in our special projects areas. In the Special projects areas please see the articles about judges needed for the Future Cities Competition on page 12 and the Detroit STEM classes pages 9 & 10.

IEEE's tag line that appears just under the logo is "Advancing Technology for Humanity". We, as electrical and electronic engineers, have a responsibility to improve the lives of all humans. "Peace on Earth, Goodwill Toward All" is a good way to look at your engineering efforts. We will all leave a legacy of designs, projects, education and mentoring. May we be proud of what we leave behind this year.

Happy New Year

I look forward to hearing from you and seeing you at our events. As always, your ideas and suggestions are encouraged and welcome.

Robert Neff
IEEE SEM Section Chair
RLNeff1@gmail.com

EIT2018 Call For Papers

**ANNOUNCEMENT and CALL FOR PAPERS
2018 IEEE INTERNATIONAL CONFERENCE on
ELECTRO/INFORMATION TECHNOLOGY**
May 3-5, 2018, Hosted by Oakland University
Rochester, Michigan, USA

ORGANIZING COMMITTEE
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EIT Conferences Founding General Chair
Hossein Mousavinezhad, Idaho State University
hossein.mousavinezhad@ieee.org

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Subra Ganesan, ganesan@oakland.edu

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Finance Chair
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EIT 2018 Webmaster
Bob Evanich, b.evanich@ieee.org

Awards Co-chairs
Sat Basu, satbasu@ieee.org
Hossein Mousavinezhad

EIT 2018 Conference Web site:
http://www.eit-conference.org/eit2018/

The 2018 International Electro/Information Technology Conference, sponsored by the IEEE Region 4 (R4), is focused on basic/applied research results in the fields of electrical and computer engineering as they relate to Electrical and Computer Engineering, Information Technology, and related applications. The purpose of the conference is to provide a **forum for researchers and industrial investigators** to exchange ideas and discuss developments in these growing fields. There will also be exhibits where the latest electro/information technology tools and products will be showcased. This is also an opportunity for professional activities development, workshops and tutorials.

Topics of interest include but are not limited to:
- Robotics and Mechatronics
- Intelligent Systems and Multi-agent Systems
- Control Systems and System Identification
- Reconfigurable and Embedded Systems
- Power Systems and Power Electronics
- Solid State, Consumer, Automotive Electronics
- ADAS-Advanced Driver Assist Systems
- Connected Vehicle – V2V, V2I, V2X
- Biomedical Applications, Telemedicine
- Biometrics and Bioinformatics
- Nanotech, Micro Electromechanical Systems
- Wireless communications and Networking
- Ad Hoc and Sensor Networks, Cyber Security
- GPU Computing
- Computer Vision, Signal/Image Processing
- Distributed Data Fusion and Mining
- Cloud, Mobile, and Distributed Computing
- Software Engineering, Middleware Architecture
- Engineering Education, More topics on website

Important dates:
- **Submission full papers: February 15, 2018**
- **Notification of acceptance: March 15, 2018**
- **Final manuscript (PDF) due: March 29, 2018**
- **Early registration: April 1, 2018**

For more information, ideas for organizing /chairing sessions, industry participation, tutorials, professional activities sessions, please contact:
    Dr. Ganesan, Dr. Aloi or Dr. Mousavinezhad

Chapter V 2018 Outlook

<u>A little glimpse in what we hope 2018 will look like for our chapter as well as fellow section members.</u>

Soon after the elections concluded in late 2017, we (the Admin folks of the Computer Society chapter) began the process of tentatively planning of what we would like to accomplish in 2018. Back in 2017, at practically every technical meeting that we held, a 1 page survey was distributed amongst the attendees. Several of these have been gathered and collated to get a feel for what folks would like to see happen.

Based on these physical samples, it was clear to us that our membership would like many more technical meetings to take place in 2018. The topics of choice were quite varied across a broad spectrum of areas. The bulk of these are listed below (do feel free to email any of the officers, if you find any missing tech area or would like some new area to be included). The topics are (in no particular order):

- An introduction to BlockChain
- IoT for beginners
- An overview of Linux distributions: which one is for me?
- Current state of the art in GPUs
- A gentle guide to Cloud Computing
- Artificial Intelligence (AI) and why does it matter
- Technologies to help manage the V2X data deluge
- Bigger & faster: swarm tech for file systems
- Industrial strength Machine Vision

Besides these topics, we also had several requests for in-depth tutorials, which are aimed at augmenting, in a very comprehensive fashion, the skill set of our present day IEEE members (and potential IEEE members as well!). Several of these are scheduled to take place on Saturdays at a suitable central location, featuring an introduction to the skill, hands on exercises, a printed copy of specially prepared & focused notes and may span several hours (modules of 4 hours each). The titles of these seminars (tentative) are:

- ✓ Introduction to JavaScript for Web programming
- ✓ Fundamentals of Python Programming
- ✓ A new programming language: Julia for modern day applications
- ✓ Data Science Concepts for Engineers
- ✓ Introduction to Machine Learning
- ✓ Deep Learning: Specific Applications
- ✓ Dual part seminar on Internet Security and
- ✓ Video Editing Basics using open source tools
- ✓ Network programming for Beginners

Of course, we plan to repeat several of the 2017 signature events, such as our annual Embedded Systems Workshop, which will take place this year in October at Lawrence Tech University. Social events are also planned, similar to the section-wide picnic, family oriented gatherings (a music concert, stage plays, etc.). We will also host a few distinguished visitors and speakers to our area from time to time. Also planned are a movie and/or video screenings of select technical historical events of our time, which have had a paradigm shifting change to our world at large.

Lastly we would like to point out once again, a major conference: the 2018 IEEE INTERNATIONAL CONFERENCE on ELECTRO/INFORMATION TECHNOLOGY, will take place on May 3-5, 2018 and will be hosted by Oakland University, Rochester, Michigan, USA. This is in our neck of the woods, so it should be easy to convince many that no long distance travel is required. This is an annual conference supported by the IEEE Region 4 and directly benefits all of the IEEE engineers in our geographic area.

Subramanian Ganesan, Sharan Kalwani, Ashok Prajapati, Ramesh Sethu, Rama Gottumukkula & Dheeraj Patel
SE Michigan Computer Society Chapter 2018

Member News

Continuing a new feature, introduced last year, little snippets celebrating news about all our members in the Section.

We would like to congratulate the following members, all of whom have achieved Senior Member status. Several of them were at the member elevation 'Round up' held at LTU. Please feel free to welcome them next time you happen to encounter them at an event or meeting.

Rama Gottumukkula,
Robert Bechtel,
James Brown,
Wen Chen,
Lora Schulwitz,
Ben Gonzalez,
Truman Shen,
Steve Brune,
Barry Poulson,
Larry Tessari,
Andre Christmann,
Wen Chu,
Amaar Ahmad,
Brian Sun,
Khalid Rahman and
Yu Zheng

In case we have missed anyone, do kindly let us know, so we may acknowledge them in the next issue.
--Sharan Kalwani

Member Bulletin Board

Request for Help
I am starting a book writing project, tentatively titled "Intro to Programming for Engineering using Numerical Methods". It is aimed at the modern day engineering undergraduate students as well as those majoring in the physical sciences.

If any of our Section members have *any* old textbooks which have a title similar to OR sounds like "Programming for Engineers (or Scientists)"? (it can be any programming language), I would be happy to take it off your hands – maybe even create a little free shelf space for you in the process!

At the same time, I am also looking for any textbooks which deal with the topic of computer based numerical methods.
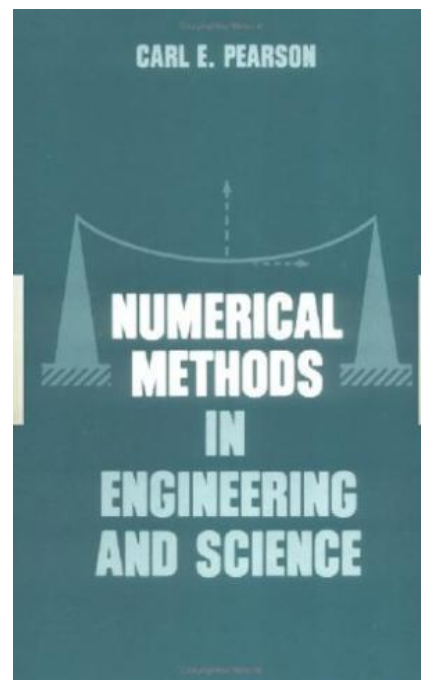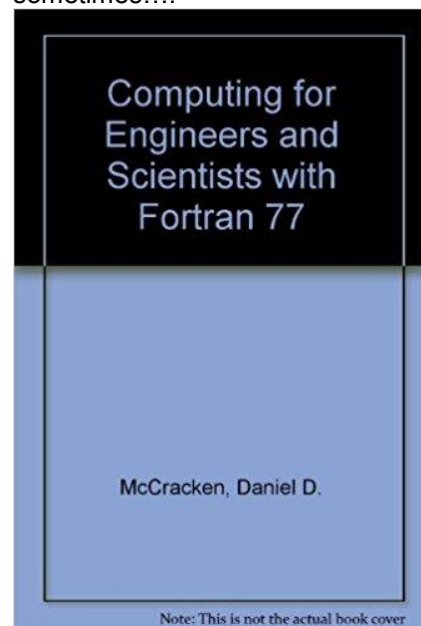
I can give you some examples of a few representative textbooks - maybe you have some old ones which you do not need right now, I can use them for my writing efforts...If you see any such - e.g. at a garage sale, used book store, or at a neighborhood curb side pickup, book shelf, etc., I would appreciate being told about it.

Here are some classical examples. The texts are:

- McCracken, Daniel D.; William I. Salmon (1988). Computing for Engineers and Scientists with Fortran 77 (2 ed.). Wiley. ISBN 978-0-471-62552-0.
- McCracken, Daniel D.; William S. Dorn (1972). **Numerical Methods** with Fortran IV Case Studies (1 ed.). Wiley.
- McCracken, Daniel D. (1967). FORTRAN with **Engineering Applications** (1 ed.). Wiley.
- McCracken, Daniel D.; William I. Salmon (1988). Computing for Engineers and Scientists with Fortran 77 (2 ed.). Wiley. ISBN 978-0-471-62552-0.
- McCracken, Daniel D. (1984). Computing for Engineers and Scientists with Fortran 77 (1 ed.). Wiley.

Some cover images maybe might be helpful in jogging the memory sometimes….

Note: This is not the actual book cover

My grateful thanks in advance! You may contact me at sharan.kalwani@ieee.org

News from around town

Continuing yet another new feature for your reading pleasure.

Reprints from various local news sources, original copyrights, credits and sources preserved and shown.

--Sharan Kalwani

Chinese manufacturer Haval to invest $3.5 million in R&D center in Farmington Hills

Source: (From Crain's Detroit Business), original report by **Annalise Frank,** http://www.crainsdetroit.com/article/20171219/news/648111/chinese-manufacturer-haval-to-invest-35-million-in-rd-center-in

- Manufacturer will lease 16,000-square-foot building
- American Haval Motor Technology plans to create 150 jobs
- It's a subsidiary of Chinese SUV and pickup maker

American Haval Motor Technology LLC plans to spend $3.51 million building a research and development center in Farmington Hills.

The subsidiary of Chinese SUV and pickup manufacturer Great Wall Motor Co. Ltd. plans to hire 150 over the next five years to staff the facility, according to a Michigan Economic Development Corp. memo and Michael Gietzen, senior business development project manager.

Hiring is expected to start in January.

Operations at the company's first R&D facility in North America will focus on meeting U.S. environmental and safety rules, according to the memo.

American Haval plans to lease a 16,000-square-foot building, Gietzen said in an emailed statement. It also intends to delve into autonomous vehicle technology there, the memo said.

The Michigan Economic Development Corp. on Tuesday awarded American Haval a $1.5 million performance-based grant through its Michigan Strategic Fund.

Haval is one of Great Wall Motor Co.'s two brands and focuses on SUVs. Its other U.S. presence is a small marketing office in California.

Great Wall last summer expressed interest in acquiring FCA US LLC's Jeep brand, but then backed away from its initial statements.

57 Startups From Around the World Confirmed to Showcase Mobility-Focused Innovations as Part of 2018 AutoMobili-D

Source: https://naias.com/press/news/57-startups-around-world-confirmed-showcase-mobility-focused-innovations-part-2018-automobili-d/

The North American International Auto Show (NAIAS) announced today that through its strategic partnership with Techstars Mobility, 57 startups from around the world will participate and showcase their mobility technologies as part of AutoMobili-D.

"Building on the success of the inaugural launch of AutoMobili-D in 2017, the startup zone has expanded for 2018 and will feature a nearly 40 percent increase in startups participating from around the world that are highlighting innovations that touch on every aspect of mobility," said Ryan LaFontaine, 2018 NAIAS

Chairman. "Collectively these startups have raised more than $157 million in venture capital funding."

Key startup highlights:

- 79 percent are first-time exhibitors at AutoMobili-D
- Startups are coming from 11 countries – a 120 percent increase in international participants from 2017
- Nearly 90 percent have existing relationships with automotive and tech companies
- These startups employ 755 individuals worldwide

"Detroit is transforming from the Motor City to the Mobility City," said Ted Serbinski, Managing Director, Techstars Mobility. "Anchoring this transformation is AutoMobili-D, which is bringing mobility startups from around the world to Detroit. This event has emerged as a crucial connector of mobility startups to automotive and mobility companies, suppliers and related organizations. These connections align with Techstars Mobility's mission of connecting mobility startups to these established corporations."

Startups focused on a wide range of topics:

- Autonomy
- Connected Car
- Electrification
- Fleet Management
- Hardware / Sensors
- Logistics
- Manufacturing
- Mapping/Journey Planning/ Multi-Modal
- Personal Mobility / Last Mile Vehicles
- Security
- Services / On Demand / Ride Sharing
- Smart City & Infrastructure

Hewlett Packard Enterprise is the Presenting Sponsor of the Techstars Mobility Startup Community.

About Techstars
Techstars helps entrepreneurs succeed. Through the Techstars Worldwide Entrepreneur Network, founders connect with other entrepreneurs, experts, mentors, alumni, investors, community leaders, and corporations to grow their companies. Techstars operates four divisions: Techstars Startup Programs, Techstars Mentorship-Driven Accelerator Programs, Techstars Corporate Innovation Partnerships, and the Techstars Venture Capital Fund.

Techstars Mobility is a Mentorship-Driven Accelerator Program part of Techstars. Techstars Mobility is the first North American accelerator focused on the future of transportation and mobility. Headquartered in downtown Detroit but investing worldwide in startups, Techstars Mobility has invested in 33 mobility startups since June 2015.
www.techstars.com

About the North American International Auto Show
Now in its 30th year as an international event, the NAIAS is among the most prestigious auto shows in the world, providing unparalleled access to the automotive products, technologies, people and ideas that matter most – up close and in one place. Administered by executive director Rod Alberts, the NAIAS is one of the largest media events in North America, and the only auto show in the United States to earn an annual distinguished sanction of the Organisation Internationale des Constructeurs d'Automobiles, the Paris-based alliance of automotive trade associations and manufacturers from around the world. For more information, visit naias.com.

2018 NAIAS Dates:
The Gallery – Saturday, January 13, 2018
AutoMobili-D – Sunday-Sunday, January 14-21, 2018
Press Preview – Sunday-Tuesday, January 14-16, 2018
Industry Preview – Wednesday-Thursday, January 17-18, 2018
Charity Preview – Friday, January 19, 2018
Public Show – Saturday-Sunday, January 20-28, 2018

Is there an event you would like to see listed here? Email us *wavelengths@ieee-sem.org*

ZF Corp

Extra Class Ham License:

AMATEUR EXTRA LICENSING COURSE

BECOME THE BEST YOU CAN BE!
the Hazel Park Amateur Radio Club offers a 14-week Course for

THE AMATEUR EXTRA CLASS LICENSE EXAMINATION

WHEN: MONDAYS from JANUARY 22, 2018 TO APRIL 23, 2018—6PM TO 9PM
WHERE: HAZEL PARK HISTORICAL MUSEUM, 45 E. PEARL AVE, HAZEL PARK, MI

COST: INSTRUCTION IS _FREE_; LICENSE MANUAL IS $25, AVAILABLE FROM THE INSTRUCTORS AT THE FIRST SESSION.

FCC License EXAM WILL TAKE PLACE AT THE LAST SESSION (APR. 23) FEE: $15

PRE-REGISTRATION IS NECESSARY

NOW, YOU CAN FINALLY GET AROUND TO IT! THERE'S NOTHING LIKE SEEING YOUR HARD WORK PAY OFF—OUR INSTRUCTOR IS INNOVATIVE AND THOROUGH, AND YOU'LL HAVE AN EXCELLENT CHANCE OF PASSING, _IF YOU DO YOUR HOMEWORK_.

REGISTER: W9NPI@ARRL.NET

SPONSORED BY
THE HAZEL PARK AMATEUR RADIO CLUB, HPARC.ORG

STEM Classes 1:

Dearborn Heights

Fundamentals of Electricity

Mondays at 7:00 pm
IEEE Engineers are leading hands-on workshops on the fundamentals of electricity and electronics for students in grades 7 - 12.

Session begins on January 22 and run for 10 weeks.

NOTE: Classes are limited to only 12 students, so register early.

Amateur Radio License:

Saturdays at 10 AM
Amateur Radio operators are leading hands-on workshops to help students of all ages prepare for the examination for their FCC Amateur (HAM) Radio License and to learn to use Morse code.

Session begins on Saturday February 3rd and run for 10 weeks.

NOTE: Detailed class information on the classes and how to obtain study materials is available at the library reference desk.

Safe Soldering & Ham Radio Kit Building:

Saturdays at 1:00 PM
Amateur Radio operators are leading hands-on workshops to help students learn safe and effective methods for soldering electronic kits. The series of kits will assemble into the student's first, low power, Morse code, Amateur Radio station.

NOTE: Students must either have their Amateur Radio License, or be attending the Saturday morning Amateur Radio License class.

Class begins Saturday February 3rd and run for 10 weeks.

Classes are limited to only 12 students, so register early.

The detailed class schedule and information on the electronic kits, and how to obtain them to prepare for class is available at the library reference desk. .

All classes will be conducted at the:

Caroline Kennedy Library
24590 George Street
Dearborn Heights, MI 48127

Register at the library reference desk, or by phone is recommended, 313-791-3800.

STEM Classes 2:

Wyandotte, MI

Fundamentals of Electricity

Wednesdays at 7:00 pm
IEEE Engineers are leading hands-on workshops on the fundamentals of electricity and electronics for students in grades 7 - 12.

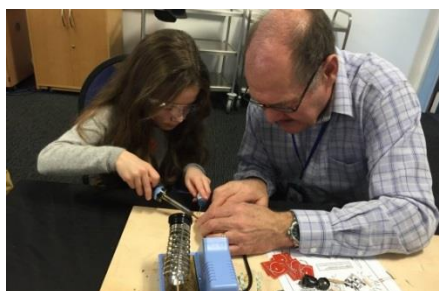Session begins on January 17 and run for 10 weeks.

NOTE: Classes are limited to only 10 students, so register early.

Amateur Radio License:

Saturdays at 10 AM
Amateur Radio operators are leading hands-on workshops to help students of all ages prepare for the examination for their FCC Amateur (HAM) Radio License and to learn to use Morse code.

Session begins on Saturday January 20th and run for 10 weeks.

NOTE: Detailed class information on the classes and how to obtain study materials is available at the library reference desk.

Safe Soldering & Ham Radio Kit Building:

Saturdays at 1:00 PM
Amateur Radio operators are leading hands-on workshops to help students learn safe and effective methods for soldering electronic kits. The series of kits will assemble into the student's first, low power, Morse code, Amateur Radio station.

NOTE: Students must either have their Amateur Radio License, or be attending the Saturday morning Amateur Radio License class.

Class begins Saturday January 20th and run for 10 weeks.

Classes are limited to only 10 students, so register early.

The detailed class schedule and information on the electronic kits, and how to obtain them to prepare for class is available at the library reference desk.

All classes will be conducted at the:
Bacon Memorial District Library
45 Vinewood
Wyandotte, MI 48192

Register at the library reference desk, or by phone is recommended, 734-246-8357.

2018 SEM Officers:

The IEEE SEM Organizational Roster is Located in the IEEE Southeastern Michigan website at: **http://sites.ieee.org/sem/**

Under the TAB titled "About SEM" use the button: "Organization Roster" to download the PDF version of the current Roster.

(Note: It is also a good idea to download the Organization Org Chart as well in order to get the complete 'big picture' of the Section.)

Years ago we used to publish the complete Chart and Roster in the Newsletter. But, that was when we had only 5 committees and 9 chapters.

Today we have 16 committees and sub-committees, 17 technical Chapters, 4 Affinity Groups and 8 Student Branches. The total roster divides into 12 pages with 247 identified officer positions.

That seems like a large organization, and it is but, it also presents our members with many volunteer opportunities to grow their capabilities through the experience of working with leaders who can guide and nurture engineering talent and widen the scope of volunteers through 'hands on' training in those 'soft skills' that can only be mastered by 'doing'.

I often refer to learning the non-technical side of an engineering career as similar to learning to play a musical instrument, or a sport, or how to dance. You can read all the books you want but, you only really learn by doing.

Reading the Roster:

Once downloaded notice that the roster is divided into five major segments:
- Executive Committee
- Standing Committees
- Affinity Groups
- Technical Chapters
- Student Branches

Within each segment you should find, at a minimum, the e-mail account for each officer, and in many cases, a work phone and a cell phone for quicker contact.

You may note a number of identified officer roles that have a blank cell (highlighted in yellow) where we would expect an officer name. These are vacant officer positions.

If you notice a vacancy where you might be interested in contributing to fill that role, please contact the relevant 'Chair' in that organization and discuss the duties of the office, and consider helping out in that element.

As with all others, the road to this learning begins with the first step. That step is inquiring and finding out what skills go with each position. That information is maintained in the IEEE Center for Leadership Excellence at: **https://ieee-elearning.org/CLE/**

Good luck!

Future City Judging:

**IEEE-SEM SECTION SPECIAL AWARD JUDGES NEEDED FOR <u>JANUARY 22, 2018</u>
FUTURE CITY COMPETITION**

by Don C. Bramlett, PE, LSMIEEE - IEEE/SEM Advisor

This is the eighteenth year that IEEE-SEM will provide a dedicated team of judges and a special professional organization award for the project having the most innovative application of electro-technology in the design of a city in the future.

Judging for the 2018 Michigan Regional Future City Competition will be on Monday, January 22, 2018 at the Suburban Collection Showplace in Novi, just off I-96 on Grand River between Novi Road and Beck Road.

- Orientation and breakfast for judges will start at <u>7:30 am</u>.

- Judging will be from 9:00 AM to 11:00 AM, followed by lunch.

- A complimentary continental breakfast and lunch are provided that day for the judges.

This pleasurable and fulfilling task only takes half a day.

This is one of the premier pre-university programs for energized middle school students. Please volunteer to be among those to comprise the team of IEEE-SEM Section special award judges.

I encourage anyone who has an interest in the science and math education of our youth or an interest in pre-university education programs to consider being a judge at the Michigan Regional Future City Competition. IEEE Student Branch members as well as regular IEEE members have found this to be a fulfilling experience in past years.

As a judge myself in previous years, I have found the experience of talking with the students, finding out their interests and observing their projects/presentations to be very rewarding. So come out and spend the morning with us as we meet with some of the potential engineers, scientists and city planners of the future.

If interested in more information concerning being a member of the team of judges for the IEEE-SEM professional award at the Michigan Regional Future City Competition, contact **Don Bramlett** at my cell (313) 608-6223, or at home at (734) 591-1452 or by email at **d.bramlett@ieee.org** .

Spring Call for Speakers:

2018 SPRING CONFERENCE

IEEE Southeastern Michigan

SATURDAY, MAY 5
CALL FOR SPEAKERS

IEEE Southeastern Michigan is looking for speakers for the upcoming 2018 Spring Conference to be held in the Greater Detroit Metropolitan Area.

The Conference is titled: **"GOVERNMENT RULES & REGULATIONS WITHIN ENGINEERING"** and aims to explore cooperation between government and industry in developing, complying with, and enforcing regulations. The subtopics could include discussions of most recent or long-standing federal and state regulations, industry-driven best practices, and technological advancement in achieving development, compliance, and enforcement of governmental regulations.

While IEEE SEM is not able to offer compensation for the speaking engagement, we invite our speakers to attend the entire event at no charge, including any meals and refreshments on offer. Those interested should submit short bio and abstract by filling out this Google Form: https://goo.gl/forms/DJeMKtkKg4secoss1.

Regulation & Compliance

———

Traditional Industries
Telecom
Biotech
Power & Energy
Computing
Automotive

———

Non-Traditional
Social Media
Cyberspace
Telehealth

———

State & Federal Regulations
IEEE Standards
Best Practices

———

Environment
Safety & Security

Location
To Be Announced
Greater Detroit Metropolitan Area

This Month in January

Or: Notable Engineering Events, that I Did Not Know! ☺

January 1, 1983 – The ARPANET officially changes to using the Internet Protocol, creating the Internet.

January 1, 1984 – The original American Telephone & Telegraph Company is divested of its 22 Bell System companies as a result of the settlement of the 1974 United States Department of Justice antitrust suit against AT&T.

January 1, 1878 – Birth of Agner Krarup Erlang, Danish mathematician, statistician, and engineer (d. 1929)

January 1,1951 – Radia Perlman, American software designer and network engineer, is born

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

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

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

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

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

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

Jan 19, 1736 – Date of birth of James Watt, Scottish-English chemist and engineer (d. 1819)
Jan 19, 1813 – Born on this day was Henry Bessemer, English engineer and businessman (d. 1898)

Jan 21, 1901 – Elisha Gray, American engineer, who co-founded Western Electric passes away (b. 1835)

Jan 26, 1885 – Birth of Harry Ricardo, English engineer and academic (d. 1974)
Jan 26, 1891 – Nikolaus Otto, German engineer, invented the Internal combustion engine (b. 1833)

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

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

Readers are invited to share any *major engineering* event or milestones that they are aware of that occurred in January, next issue. Submissions can be made using direct email to the editors at: wavelengths@ieee-sem.org

Sharan Kalwani
Associate Editor, Wavelengths,
Vice-Chair, Chapter 5 (Computer Society), Chair, Chapter 12 (Education Society)
Engineering History Buff/Aficionado

ORG UNITS cheat sheet

Section Unit Name or Affinity Group or Chapter Name (Organizational Unit is in parentheses)		
Consultants Network Affinity Group: (CN40035)		
Life Members:		
Young Professionals:		
Women in Engineering:		
Chapter: 01	(SP01)	Signal Processing Society,
	(CAS04)	Circuits and Systems Society and
	(IT12)	Information Theory Society
Chapter: 02	(VT06)	Vehicular Technology Society
Chapter: 03	(AES10)	Aerospace and Electronic Systems Society and
	(COM19)	Communications Society
Chapter: 04 "Trident"	(AP03)	Antennas and Propagation Society,
	(ED15)	Electron Devices Society,
	(MTT17)	Microwave Theory and Techniques Society,
Chapter: 05	(C16)	Computer Society
Chapter: 06	(GRS29)	Geosciences and Remote Sensing Society
Chapter: 07	(PE31)	Power Engineering Society,
	(IA34)	Industrial Applications Society
Chapter: 08 "EMC"	(EMC27)	Electromagnetic Compatibility Society
Chapter: 09	(IE13)	Industrial Electronics Society,
	(PEL35)	Power Electronics Society
Chapter: 10	(TEM14)	Technology and Engineering Management Society
Chapter: 11	(EMB18)	Engineering in Medicine & Biology
Chapter: 12	(CS23)	Control Systems Society
Chapter: 13	(E25)	Education Society
Chapter: 14	(RA24)	Robotics And Automation Society
Chapter: 15	(NPS05)	Nuclear Plasma Sciences Society
Chapter: 16	(CIS11)	Computational Intelligence Society,
	(SMC28)	Systems, Man and Cybernetics Society
Chapter: 17	(NANO42)	Nanotechnology Council

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

Curated & Formatted By Sharan Kalwani,
Associate Editor, Wavelengths,
December 2017

Non-IEEE 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.

SEM e-Wavelengths:
www.e-wavelengths.org
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 Web Calendar:
http://sites.ieee.org/sem/
Select "SEM Calendar" button in the top row of the website.

SEM Web Meetings:
http://sites.ieee.org/sem/
Select "SEM Meeting List" button in the left-hand column.

vTools Meetings:
http://sites.ieee.org/vtools/
Select "Schedule a Meeting" button in the left-hand column of buttons.

Other IEEE Local Meetings:
http://www.e-wavelengths.org/

Other Happenings

However, since IEEE members tend to have eclectic interests, we want to give everyone a heads up for some of the non-IEEE events that may be of interest.

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.

Send the particulars to
wavelengths@ieee-sem.org
            OR
anyone of the following….
k.williams@ieee.org
karen.burnham@ieee.org
sharan.kalwani@ieee.org

An announcement may be placed in the newsletter.

Links:

Michigan Institute for Plasma Science and Engineering:
Seminars for the 2017-2018 academic year:
http://mipse.umich.edu/about/seminars.htm.

Below are links to local SEM Clubs engaged in technical hobbies as well as links to sites that may be useful for locating clubs in the area.

Amateur Radio Clubs in Southeastern Michigan
(This is a fairly comprehensive listing of all the 'Ham' clubs in SEM.)
http://www.wa2hom.org/ham-radio-clubs-in-se-michigan/

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

Model Rocketry
http://team1.org/

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
http://therobotgarage.com/about-us.aspx

Science Fiction Conventions
http://www.conclavesf.net/

https://2018.penguicon.org/

http://2018.confusionsf.org/

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

ESD PE Review Class
www.esd.org

Makers Faire:
http://www.thehenryford.org/events/makerFaire.aspx

Executive Committee

The SEM Executive Committee is the primary coordination unit for Southeastern Michigan (SEM) IEEE operations. The basic organization chart below shows the 2017 arrangement of communications links designed to provide inter-unit coordination and collaboration.

The SEM Executive Committee meets in a teleconference each month on either the first Wednesday or first Thursday at noon. The specific meeting days, times, phone or WebEx numbers and log in codes are published on the IEEE SEM Website calendar: **http://sites.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 David Mindham, the section secretary at: **dmindham@ieee.org** and request to be placed on the distribution list for a monthly copy of the agenda and minutes.

More meeting details are available on the next page of this newsletter.

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

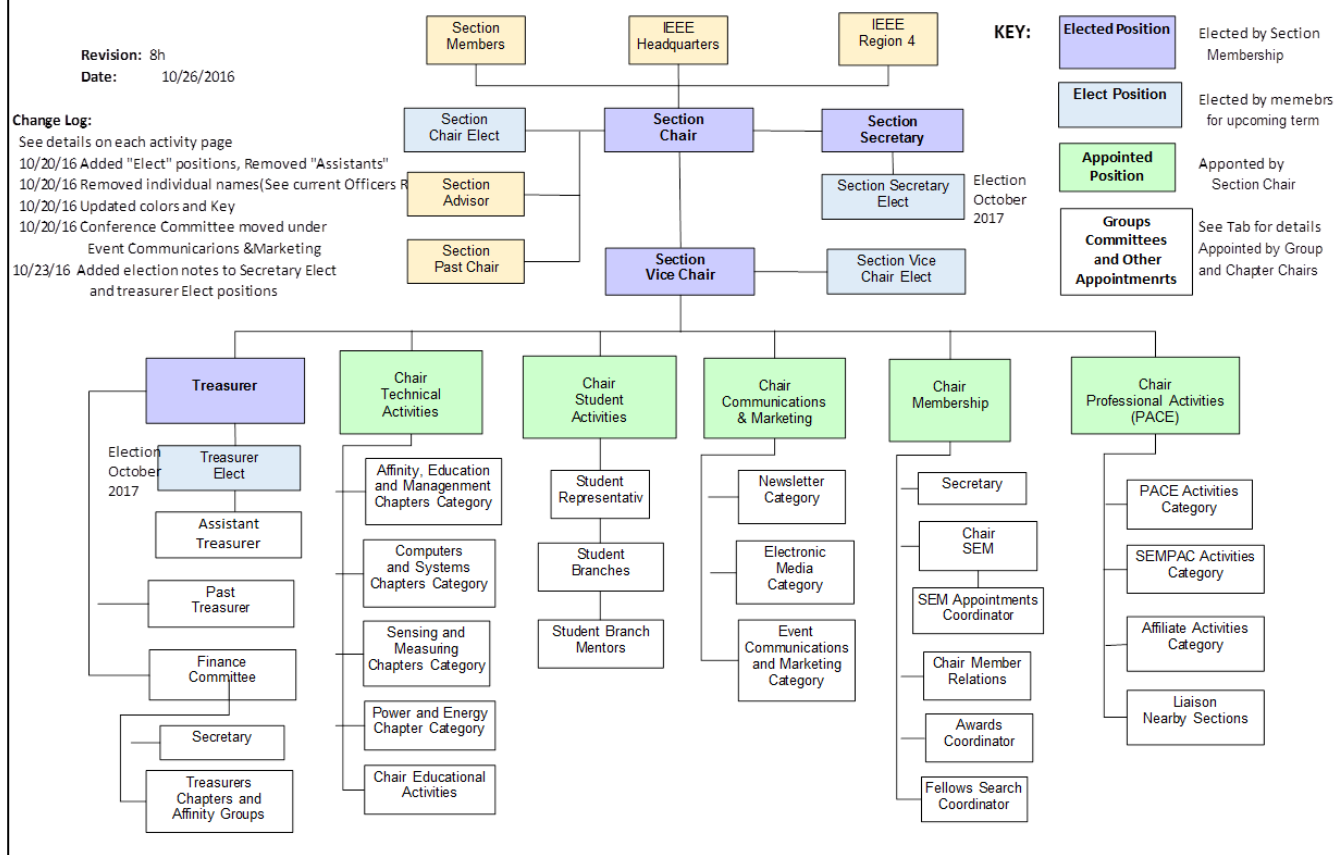However, members of the section may have multiple technical interests and would like to have meeting information of other chapters. In order to communicate the meeting dates of all the chapters, affinity groups etc., to our members to facilitate their attendance, leaders of the groups are requested to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

More detailed information on meetings may be found by using the IEEE meetings site. This may be found through the IEEE SEM Website: **http://sites.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.

David Mindham - SEM Secretary

Current Organization - IEEE Southeastern Michigan Section (SEM)

Download the complete SEM Organization Chart, in PDF format, from the SEM Website at: www.ieee-sem.com
Then, click on "About SEM" Tab, followed by, click on "Current Officers" *(NOTE: this is now password protected)*

ExCom Meeting Schedule:

Below is the 2018 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 the meetings.
Information on each Face to Face Meeting will be sent out once the venue is confirmed.

Please mark your calendars for the 2018 meetings.   Or, link your personal calendar to the SEM Web calendar.

January 10, Wednesday, F2F (In person meeting), 5:30 – 7:00 P.M. https://meetings.vtools.ieee.org/m/49028

Feb 1, Thursday, Teleconference (online only), 12:00 – 1:00 PM, https://meetings.vtools.ieee.org/m/49029

March 7, Wednesday, Teleconference (online only), 12:00 – 1:00 PM, https://meetings.vtools.ieee.org/m/49030

April 5, Thursday, F2F (In person meeting), 5:30 – 7:00 P.M., https://meetings.vtools.ieee.org/m/49031

May 2, Wednesday, Teleconference (online only), 12:00 – 1:00 PM, https://meetings.vtools.ieee.org/m/49032

June 7, Thursday, Teleconference (online only), 12:00 – 1:00 PM, https://meetings.vtools.ieee.org/m/49033

July 11, Wednesday, F2F (In person meeting), 5:30 – 7:00 P.M., https://meetings.vtools.ieee.org/m/49034

August 2, Thursday, Teleconference (online only), 12:00 – 1:00 PM, https://meetings.vtools.ieee.org/m/49035

September 5, Wednesday, Teleconference (online only), 12:00 – 1:00 PM, https://meetings.vtools.ieee.org/m/49036

October 4, Thursday, F2F (In person meeting), 5:30 – 7:00 P.M., https://meetings.vtools.ieee.org/m/49037

November 7, Wednesday, Teleconference (online only), 12:00 – 1:00 PM, https://meetings.vtools.ieee.org/m/49038

December 6, Thursday, Teleconference (online only), 12:00 – 1:00 PM, https://meetings.vtools.ieee.org/m/49039

David Mindham
SEM Secretary

Note: All IEEE SEM Members
are welcome at any IEEE meeting,
at any time but, please register so
we can be sure to accommodate
you.

David Mindham
SEM Secretary

Section Focus:
The IEEE SEM Section 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 (…**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.

SEM Monthly Meetings

Scheduled Meetings:
The regular meetings of the SEM Leadership (Executive Committee) are scheduled well in advance to allow everyone to place them in their personal planning calendars, and then defend those dates against encroachment. (*Not always possible*.)

Two types of Monthly meetings are normally scheduled:

Monthly Teleconference / WebEx as well as:

Quarterly Face-to-Face (F2F). See schedule on the page above:

Note: All IEEE meetings are **'Open' for all members to attend.**
The only caveat is that you please register using the specific meeting form on the vTools site at:
https://meetings.vtools.ieee.org/main

Registering will ensure there is sufficient space, refreshments and support for attendees.

Teleconference Schedule
    (Held from 12-1 p.m.):

F2F Meeting Schedule:

More information for F2F meetings will be emailed to all officers, (and any members requesting the schedule), in a timely manner before the meeting dates.

Contact **David Mindham** the SEM Section Secretary.at:
dmindham@ieee.org
for more information.

Additional information may be found at (**http://sites.ieee.org/sem/**).

The links to the SEM Facebook or LinkedIn pages on the SEM website may also be checked for updates.
All the normally scheduled meetings of each of the other section chapters, affinity groups etc. are listed each month in the vTools area of our SEM website at:
http://ewh.ieee.org/r4/se_michigan/calendar1.php

The information is for:
    Standing Committee Meetings
    Affinity Group Meetings
    Technical Chapter Meetings
    University Student Branch Meetings
    University HKN Chapter Meetings

Calendar Schedule:
Meetings are also announced on the SEM Calendar web page
    http://sites.ieee.org/sem/
(Select the "SEM Calendar" **button** in the top row.)

Note: Often meetings of the Executive Committees of Chapters and Affinity Groups (and standing committees, of course) are listed only in the SEM Calendar page, since it is felt that most members would not wish to sit through administrative meetings.

However, if this type of meeting is just your 'cup of tea', then contact the officers of the unit that is conducting the meeting, and ask to be 'linked' into their teleconference, SKYPE, Google Hangout, or WebEx meeting. They will be happy to have you as a participant.

Many volunteers become interested in section activities when they get a chance to attend a monthly meeting and 'peek under the hood' to find out how the machinery of the section actually runs. It can be a rewarding experience.

David Mindham
SEM Section Secretary.
dmindham@ieee.org

Editors Corner

Previous editions in this series may be found on the IEEE SEM website at: http://sites.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
k.williams@ieee.org
sharan.kalwani@ieee.org
jrwwoodyard@gmail.com
karen.burnham@ieee.org

We also recommend a cc to the chair of the Communications and Marketing Committee, Ravi Nigam at: ravi.nigam@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.

Editors:

We are always looking for members interested in helping to edit the newsletter. The process is always more fun with more members to share the duties, and help keep the newsletter alive and lively by providing alternative points of view.

Heads Up

We are contemplating making the submissions of articles and events for the Wavelengths, a little easier and a little more inviting. Ideas are of course welcome and to this end, we are toying with setting up a little "newsletter portal". Stay tuned for some news on that end!

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   OR anyone of the following:
karen.burnham@ieee.org
sharan.kalwani@ieee.org
jrwwoodyard@gmail.com
k.williams@ieee.org

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	

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	

← *Wavelengths Annual Publication Plan for Personal Profiles*

Web & Social Sites

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

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

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

SEM Facebook Page
(Select the "[f]" button under the top row.)

SEM LinkedIn Page
(Select the "[in]" button under the top row.)

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

SEM On Line Community Section Officers
http://sem.oc.ieee.org

Section Officers

Section Chair
Robert Neff

Section Secretary
David Mindham

Section Vice-Chair
Nevrus Kaja

Section Treasurer
Xinhua Xiao

Standing Committees:

Section Adviser
Don Bramlett

Chair Communications & Marketing
Ravi Nigam

Chair Educational Activities
Aaron Romain

Chair Finance
Nevrus Kaja

Chair Membership
Aisha Yousuf

Chair Nominations & Appointments
Kimball Williams

Chair Professional Activities (PACE)
Sharan Kalwani

Chair Student Activities
Hashim Abdul

Student Representative
Mehdi Mohammadi

Chair Technical Activities
Kimball Williams

IEEE Southeastern Michigan

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

Leadership Meetings

All IEEE members are welcome to join us at any regularly scheduled meeting:

SEM Executive Committee Monthly Teleconferences:
- 1st Wednesday or Thursday of Each Month @ Noon
- Check the Section Web Calendar at:
  http://sites.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:
  https://meetings.vtools.ieee.org/main

SEM Standing Committee Meetings:
SEM Affinity Group Meetings:
SEM Technical Society/Chapter Meetings:
SEM University Student Branch Meetings:
- Meeting schedules are announced on SEM Web Calendar
  http://sites.ieee.org/sem/
  (Select the "SEM Calendar" button in the top row.)

- Registration for all at:
  https://meetings.vtools.ieee.org/main