Wavelengths

Volume 60 – Issue 12

Contents

Upcoming Events	1
Chair's Message	2
2021 SEM Officers	3
Section Mission	5
'Ham' News	6
Energy Sources Report	7
ESD Gold Award Call	10
WIE Murder Mystery Night	12
EIT 2021 CFP	13
LTU Student Branch news	14
RoboFest 2020 Report	17
ORG UNITS cheat sheet	18
Non-IEEE Events	19
Executive Committee	20
ExCom Meeting Schedule	21
Editor's Corner	22
Section Officers	24
Web & Social Sites	24
Advertising Rates	25
Leadership Meetings	25

Upcoming Events

We have a number of events coming up this month. Be sure to check out the Section Website: **https://r4.ieee.org/sem**

As well as vtools:

IEEE Region 4 - SE Michigan Section Upcoming

Listed below are some of the events, FYI.

Event	Date	Time
SEM Section ExCom Monthly Meeting (Teleconference) for December 2020	02 Dec 2020	12:00 PM
Three-Day Online Tutorial: Introduction to Python programming	05 Dec 2020	09:00 AM
Earning Your PE License Information Session - Open Invitation	07 Dec 2020	07:00 PM
Mathematical Morphology and its use in processing DEMs	08 Dec 2020	07:00 AM
Recent Advances from Supercomputing 2020 conference	08 Dec 2020	06:00 PM
Consultants Affinity Group - Admin Meeting	11 Dec 2020	04:01 PM
The Impact of Modern Robotics, Data Analysis, and CEM Simulation on Antenna and EMC Measurements	15 Dec 2020	12:00 PM
IEEE SEM Chapter 16 EXCOM Meeting	16 Dec 2020	07:00 PM
IEEE SEM Chapter 1 EXCOM Meeting	23 Dec 2020	07:00 PM

Chair's Message

Welcome to the last issue of Wavelengths for 2020!

This month's issue of the wavelengths features several virtual events that were held recently for our membership. Events included a multi-day discussion on renewable energy organized by two of the Section chapters (CS & PES) and a unique murder mystery night sponsored by our Women in Engineering (WiE) group.

Section events tend to slow down during the holidays, but there are still several to consider in December.

It has been a very unique year for all of us. We had to quickly adjust to virtual meetings. It is anticipated that Section activities will largely be virtual through at least summer 2021. We are hoping that we can develop activities that can be appealing to members virtually in the first half of the year, and then transition to a mix of in person and virtual events later in the year. I'm confident that our members will find ways to engage whatever the circumstances facing us.

Also in 2021, several international conferences are coming to our Section. They are still being finalized and the dates are subject to change due to COVID. Look for exciting announcements in future issues of the Wavelengths. Thank you for reading.

Stay safe everyone and I look forward to 2021.

David Mindham
dmindham -At- ieee.org

2021 SEM Officers

IEEE SEM Members: The listings shown below Constitute the beginning position this year's election has left us to deal with.

We had a record breaking election year.

- *Fewest nominations for office of all time*
- *Fewest write in candidates of all time*
- *Fewest confirmation responses…*

…you get the idea.

Whether this was the result of a general distraction of a global virus pandemic, a world-wide economic depression, a hotly debated US election, serious questions as to whether any of us would have a job or simply a 'who cares' attitude, I doubt anyone really knows for sure.

What is known is that your elected IEEE officers have to deal with this situation, and we are doing our best. But, we need your help.

Please look through all the listings below:
If you see your name associated with an elected office we need you to contact the Chair of the Nominations and Appointments Committee (k.williams@ieee.org) and **verify, or deny** that data.

If we have already talked, and everything is OK, you can relax. If there is an error, I need to know ASAP in order to correct the records.

If the print on the inserts is too small for your to read, download the PDF version from the SEM Website at:
https://r4.ieee.org/sem/wp-content/uploads/sites/6/2020/11/Organization_Roster_No@_1.1.2021.pdf

Note: The listings below are only for the Section and Geo-unit (Affinity Groups and Chapters) officers.

I will discuss Standing Committees, Student Branches and HKN Chapters next month.

SEM Section Executive Committee:

Section Officers:	Officers Name	e-mail
Executive Committee (ExCom):		
Chair	David Mindham	dmindham@ieee.org
Chair-Elect	David Mindham	dmindham@ieee.org
Secretary	Bhupinder Mavi	bmavi@outlook.com
Asst Secretary		x
V-Ch	Sharan Kalwani	sharan.kalwani@ieee.org
V-Ch-Elect	Sharan Kalwani	sharan.kalwani@ieee.org
Treasurer	Colleen Chmielewski	colleenchmielewski@ieee.org
Asst Treasurer		x
Section Adviser	Don Bramlett	d.bramlett@ieee.org
Past-Ch	Kimball Williams	k.williams@ieee.org
Standing Committees: *		
Affinity Groups: *		
Chapters: *		

* NOTE The astrick * after the office title indicates a voting element of the ExCom.

Affinity Groups		
Consultants Network Affinity Group: (CN40035)		
Chair	Kimball Williams	k.williams@ieee.org
V-Ch	Sharan Kalwani	sharan.kalwani@ieee.org
Secretary		
Treasurer		
Past-Ch	Ian Hutt	
Life Member Affinity Group: (LIFE)		
Chair	Harpreet Singh	hsingh@eng.wayne.edu
V-Ch	Bhupinder Mavi	bmavi@outlook.com
Secretary	SHASHANK KAMTHAN	s.kamthan.us@ieee.org
Secretary	Arun Hundiwal	arunhundiwal@yahoo.com
Treasurer		
Past-Ch		x
Women in Engineering Affinity Group: (WIE)		
Chair	Chaitali Naik	cnaik@mtu.edu
V-Ch	ashfiqua connie	ashfiqua.connie@gmail.com
Secretary	Colleen Chmielewski	colleenchmielewski@ieee.org
Webmaster	Colleen Chmielewski	colleenchmielewski@ieee.org
Treasurer		
Past-Ch	Tia Twigg	te_reen@yahoo.com
Young Professionals Affinity Group: (YP)		
Chair	Ian Hutt	ianhutt@hotmail.com
V-Ch	Colleen Chmielewski	colleenchmielewski@ieee.org
Secretary	Chaitali Naik	cnaik@mtu.edu
Treasurer	Aparna Addada	aaddada@mtu.edu
Past-Ch		

SEM Affinity Groups:

SEM Technical Chapters:

Chapter 01 (SP01) Signal Processing Soc,(CAS04) Circuits and Systems So		
Chair	Robert Adams	robert.adams.v-AT-ieee.org
V-Ch		
Director(SP Soc)		
Director(C&S Soc)	Kenji Aono	aonokenj-AT-egr.msu.edu
Director(IT Soc)	Jeffrey Dulzo	jeff.dulzo-AT-gmail.com
Secretary	Milad Moosavifar	moosavi-AT-umich.edu
Treasurer		
Past-Ch	Jeffrey Dulzo	jeff.dulzo-AT-gmail.com
Chapter 02 (VT06) Vehicular Technology Soc		
Chair	Mohamad Berri	mberri-AT-ford.com
V-Ch	Jennifer Dukarski	dukarski-AT-butzel.com
Secretary	Eugene Saltzberg	gene.saltzberg-AT-ieee.org
& Facility Organizer	Jennifer Dukarski	dukarski-AT-butzel.com
Treasurer	Eugene Saltzberg	gene.saltzberg-AT-ieee.org
Past-Ch	Lawrence Baczkowski	larrybazzz-AT-ieee.org
Chapter 03 (AES10) Aerospace and Electronic Systems Soc, and (COM19)		
Chair	Patrick Seeling	pseeling-AT-ieee.org
V-Ch		
Director(AE Soc)		
Director(Com Soc)		
Secretary		
Treasurer	Jeffrey Dulzo	jeff.dulzo-AT-gmail.com
Past-Ch	Malcolm Lunn	lunnmalcolm-AT-me.com
Chapter 04 (AP03) AP03 Antennas and Propagation Soc, (ED15) Electron		
Chair	Rebecca Peterson	blpeters-AT-umich.edu
V-Ch	Anthony Grbic	agrbic-AT-umich.edu
Director (AP Soc)	Anthony Grbic	agrbic-AT-umich.edu
Director (ED Soc)	Fan-hsuan Meng	fanhsuan-AT-umich.edu
tor-Tech (MTT Soc)	Milad Moosavifar	moosavi-AT-umich.edu
or (Photonics Soc)	Somin Eunice Lee	sleee-AT-umich.edu
Secretary	Behnoush Rostami	behnoosh-AT-umich.edu
Treasurer	Menglou Rao	menglrao-AT-umich.edu
Past-Ch	Kimball Williams	k.williams-AT-ieee.org

Chapter 05 (C16) Computer Soc		
Chair	Subramanian Ganesan	ganesan-AT-oakland.edu
V-Ch	Sharan Kalwani	sharan.kalwani-AT-ieee.org
Secretary	S Ramesh	rameshari1958-AT-gmail.com
Treasurer	Ashok Prajapati	prajapati.ashok-AT-gmail.com
Co-Treasurer	S Ramesh	rameshari1958-AT-gmail.com
Director: Admin & Member Development	Nizar Alholou	alholou-AT-comcast.net
Director: Technical Activities	Sharan Kalwani	sharan.kalwani-AT-ieee.org
Director: Software Activities	Ashok Prajapati	prajapati.ashok-AT-gmail.com
Director: Auto relations Liaison	S Ramesh	rameshari1958-AT-gmail.com
Tech activities Co-ordinator:	Jesus Salvador Almanza Garcia	salmanza-AT-ieee.org
Student & Education Liaison	Carla Gerst	carlagerst-AT-ieee.org
Industrial Liaison	S Ramesh	rameshari1958-AT-gmail.com
Webmaster	Sharan Kalwani	sharan.kalwani-AT-ieee.org
Past-Ch	Subramanian Ganesan	ganesan-AT-oakland.edu
Chapter 06 (GRS29) Geosciences and Remote Sensing Soc		
Chair	Leland Pierce	lep-AT-umich.edu
V-Ch	Adib Nashashibi	nuha-AT-umich.edu
Secretary	Mostafa Zaky	mzaky-AT-umich.edu
Treasurer	Michael Benson	michael-AT-mrealm.com
Past-Ch	Adib Nashashibi	nuha-AT-umich.edu
Chapter 07 (PE31) Power Engineering Soc, (IA34) Industrial Applications S		
Chair	Looja Tuladhar	l.tuladhar-AT-vikes.csuohio.edu
V-Ch	Chaitali Naik	crnaik-AT-mtu.edu
ctor(Tech Activity)	Chaitali Naik	crnaik-AT-mtu.edu
Director(Pwr Eng)	Looja Tuladhar	l.tuladhar-AT-vikes.csuohio.edu
Director(Ind Appl)	Binaya Joshi	binaya.joshi-AT-cai-engr.com
Secretary	Binaya Joshi	binaya.joshi-AT-cai-engr.com
Treasurer	Chris Nelson	chris.nelson-AT-cai-engr.com
Past-Ch	David Mindham	dmindham-AT-ieee.org
Chapter 08 EMC (EMC27) Electromagnetic Compatibility Soc		
Chair	Scott Lytle	s.r.lytle-AT-ieee.org
V-Ch	Akio Fujimaki	akiofujimaki-AT-ieee.org
ctor(Prof Activity)	Akio Fujimaki	akiofujimaki-AT-ieee.org
ctor(Tech Activity)	Candace Suriano	csuriano254569-AT-comcast.net
Director(Awards)	James Woodyard	jrwwoodyard-AT-gmail.com
r(Communications)	Scott Lytle	s.r.lytle-AT-ieee.org
irector(Marketing)	Steve Tomba	steve-AT-epictek-llc.com
Secretary	Steve Tomba	steve-AT-epictek-llc.com
Treasurer	Matthew Feusse	matt-AT-emcsociety.org
Past-Ch	Dennis Barberi	dlbarberi_98-AT-yahoo.com
Chapter 09 (IE13) Industrial Electronics Soc, (PEL35) Power Electronics So		
Chair	Sridhar Nalla	nksridhar-AT-yahoo.com
V-Ch		
Director(IndElect)		
Director(Pwr Elect)		
Secretary		
Treasurer		
Past-Ch		x
Chapter 10 (TEM14) Technology and Engineering Management Soc		
Chair	Mark Robinson	mark.robinson-AT-bw-ee.com
V-Ch	Raymond Sasinowski	rays-AT-ieee.org
Secretary	David Werden	dwerden55-AT-gmail.com
Treasurer	Kellee Christensen	kelleechris-AT-sbcglobal.net
Past-Ch	David Werden	dwerden55-AT-gmail.com
Chapter 11 (EMB18) Engineering in Medicine and Biology Soc		
Chair	Patrick Rye	ryepatrick-AT-ieee.org
V-Ch		
Secretary		x
Treasurer		
Past-Ch	Maurice Snyder	mfsnyder-AT-me.com
Chapter 12 (CS23) Control Systems Soc		
Chair		
V-Ch		.
Secretary		
Treasurer		
Past-Ch		.

Chapter 13 (E25) Education Soc		
Chair	Sharan Kalwani	sharan.kalwani-AT-ieee.org
V-Ch	Kenji Aono	aonokenj@egr.msu.edu
Secretary	Nizar Alholou	alholou-AT-comcast.net
Treasurer		
Past-Ch	Richard Johnston	rjohnston-AT-ltu.edu
Chapter 14 (RA24) Robotics And Automation Soc		
Chair		
V-Ch		
Secretary		jon-AT-jonandangie.com
Treasurer	Chan-Jin Chung	cchung-AT-ltu.edu
Past-Ch	ALI EYDGAHI	aeydgahi-AT-emich.edu
Chapter 15 (NPS05) Nuclear Plasma Sciences Society		
Chair		.
V-Ch		
Secretary		
Treasurer		
Past-Ch		x
Chapter 16 (CIS11) Computational Intelligence Soc, (SMC28) Systems, Ma		
Chair		.
V-Ch		
Director(CI Soc)		
Director(SMC Soc)		
Secretary		
Treasurer	Jeff Dulzo	jeff.dulzo@gmail.com
Past-Ch	Jeffrey Dulzo	jeff.dulzo-AT-gmail.com
Chapter 17 (NANO42) Nanotechnology Council		
Chair	Randy Boone	rboone1-AT-ford.com
V-Ch		
Secretary	Wen Li	wenli-AT-egr.msu.edu
Treasurer	Amar Basu	amar.basu-AT-wayne.edu
Past-Ch	Wen Li	wenli-AT-egr.msu.edu

I expect everyone reading this listing to find a lot of errors, mistakes and blunders. Please take a moment and let me know, so that I can build an accurate picture of our current situation.

We have a lot of rebuilding to do in the early months of 2021, and it will take a lot of effort to bring us back from this brink.

I also expect we may see one or more of our historic chapters removed from this list completely due to lack of support from its members, which is unfortunate because of the hole it will leave in not a few future careers due to the lack of local support.

kw … k.williams@ieee.org

Section Mission

Why do we have a Section Mission?
The Section Mission statement and goals below provides guidance when any situation stretches beyond the normal parameters of our operation or when we are considering new options and opportunities.
Normal operating procedures are intended to cover the most usual and 'normal' situations. But, when a situation is not covered by existing procedures, we need a philosophical base to fall back upon for how we are to conduct ourselves. This is the function of our Mission statement, to provide that philosophical base.

The Mission statement serves a similar role as the Constitution of the United States of America which provides the guidance for all governmental decisions, as well as the philosophical foundation for future and past actions.

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, (**Declared most important by our Section Chair.)
- 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.

'Ham' News

Amateur Radio operators are licensed by the Federal Communications Commission (FCC) as a Service under Federal Regulations Part 97 for 5 functions:

- Emergency Communications,
- Advancing radio art,
- Advancing communication skills
- Providing a reservoir of trained operators and
- Enhancing international goodwill.

In all of these, Amateur Radio operators give their time, attention and devotion (and their personal investment in funds) in support of these goals 'without pecuniary interest'.
Now the FCC is proposing a Fee ($50) for each new Amateur Radio license. This will fall hardest on the youngest students who become interested in electronics and engineering and see Amateur Radio as a stepping-stone to more learning. It is likely to discourage many from even trying.

So, why should IEEE care?
Data gathered from IEEE conferences in the last three years shows that Amateur Radio has been a significant influence in young students seeking Electrical Engineering as a career path. The USA national average for Amateur Radio Operators is 0.2%. The average in measured IEEE Societies is 6%. That is a factor of 30 times! (Another statistic from NASA says that 25% of US Astronauts are licensed Amateur Radio Operators!)

Given the restrictions of the Covid-19 pandemic, it is no wonder that the communications technology represented by Amateur Radio would see a growth surge. The temptation to take advantage of that growth by imposing a new 'Fee' for services (which are primarily conducted by elements outside of the government, or are almost completely automated) is an understandable temptation from political leaders who see their constitutes primarily as a source of funds.

Response:
So, what can we do? Write your Senators and Congressmen and ask them to please reconsider the effect and implications of a license fee placed on the Amateur Radio community. Amateurs spread good will around the world in their everyday activities along with bringing young students into STEM (Scientific, Technical, Engineering and Mathematical) activities which can positively influence their future careers. Most of these are Middle and High School students and the effect of a new fee would fall most heavily on these young students.

Amateur Radio operators perform public service handling communications during emergency situations, such as the fires in the west, and hurricane's along our coasts. Amateurs also have taken the duties of self-regulation and license examination on their own shoulders, relieving the FCC of those functions and their associated expenses. Amateur operators also observe in the non-amateur radio spectrum and report suspicious signals. Amateur Radio experimentation over the years has resulted in significant improvements in radio technology that benefit everyone. In all of these, Amateur Radio operators give their time, attention and devotion (and their personal investment in funds) in support of these goals 'without pecuniary interest'.

"Sacrificing the future for short term gain has not helped any civilization in the past several millennia."

Energy Sources Report

[Recently there was a 2-part online seminar by Prof Chuck Hawkins on Renewables and Baseload Energy Sources. This was attended by well over a 100 people from both Region 3 and Region 4, primarily the PES chapter members. Enclosed here is a report written by one of the attendees: Matt Pasternak. Thank you Matt!
–Sharan Kalwani (ed)]

Many of you have likely seen that the world is eager for 100% renewable power. Professor Chuck Hawkins, Adjunct Faculty (University of Florida) presented the limitations preventing this from being feasible in all but select geographical locations, during two Zoom webinar seminars (10/30/2020 and 11/06/2020). In the first session, Prof. Hawkins discussed renewables, while in the second webinar, he went over baseload sources. Both days were followed up with extensive discussion among the attendees, which provided further in depth industry information.

Day One Prof. Hawkins opened with standard definitions for renewables (any energy source naturally replenished) and baseload power (the minimum power demand on a grid across a span of time), as well as the important distinction between nameplate power and capacity factor. Nameplate power is the maximum power a source will produce under ***optimal*** conditions, while the capacity factor is the percent of time generating at nameplate power. He noted in the introduction that renewables are getting a lot of attention right now, by both non-government agencies, such as the Sierra Club, (which Prof. Hawkins is a former member of) as well as politicians. For example, the Prime Minister of England stated that Great Britain will remove all coal generating plants by 2025. It was also stated that the gap in power would be replaced by wind generators – which will probably be difficult. The Sierra Club has published a list of multiple cities have committed to use 100% renewable, however this distinction is based on the nameplate power or the installations, not their actual generated power.

Prof. Hawkins next noted that wind turbines typically don't generate nameplate energy until approximately 33 MPH (15 m/s) sustained wind speeds, this leads to a typical 30-35% capacity factor. This surprised me some as there are multiple wind farms in my area of central Illinois, but weatherspark.com, which Prof. Hawkins cited in the webinar, indicates that our average wind speed is only 7-13 MPH. Of course major wind farms are mounted well above grade to prevent turbulence, which provides for better wind. This leads to one issue with wind energy, which is that good wind is typically not close to major population centers, requiring new transmission lines, thus raising the cost, as noted by attendee Mark. Kyle Iverson points out that this increased cost is a primary limiting factor as power is currently cheap in the US. These are in addition to the main danger of wind, which is the fact that turbines have been known to catch fire (approximately 75-120 per year), at times leading to the death of maintenance personnel.

Solar is a popular option for renewables because it is quiet, clean, has minimal new power lines, etc. However, people rarely consider the production limitations of solar, which is caused by clouds, rain, and snow. These lead to capacity factors for solar to range from a low of 17% in Florida to around 23% in New Mexico. Prof. Hawkins indicated that for residential installations it is often better to change habits towards energy conservation instead of installing expensive systems. Prof. Hawkins helped install an 800 W battery backup system for the Navajo Nation while at the University of New Mexico, which cost $20k. For utility scale installations, Duke Energy installed an 80 MW system in Jasper, Florida, which equated to ~ $25 Million/MW. What I hadn't previously considered before, and that I feel is a large limitation to renewables is the ability to overwhelm the grid when a lot of installations, which are producing at nameplate. This leads to a negative power cost, as there is more power than is being used. Coupled with baseloads requiring time to spool up when renewables don't keep up with demand, makes it difficult to rely solely on renewables.

The last renewable is hydroelectric, which provides efficient, reliable power. While reservoir basin levels are an important consideration, hydroelectric provides considerable renewable power in multiple countries, particularly Scandinavian countries. Engineering design is important for hydroelectric power, and good designs can provide long-lasting power such as the Grand Coulee Dam, Hoover Dam, and other depression era dams. Unfortunately, poor engineering can have destructive consequences, and multiple dams have had deadly collapses in the past. Prof. Hawkins bills hydroelectric as the King of Renewables, which seems to be a good designation for it.

Hydroelectric is proportionally tied to upstream and downstream water levels though, thereby limiting the locations it can be used.

After a brief comparison of power density for different sources (showing that nuclear takes up significantly smaller footprint, even accounting for waste) Prof. Hawkins segued to general questions and attendee discussion. A lot of industry professionals chimed in, providing more information than could be covered in this review. A selection of topics included: efficacy of solar tracking (effective, but generally not worth the cost, asked by Padraic McFreen and answered by Prof. Hawkins); overview of Germany's approach to renewables in the last 20 years (by Johannes Elwardt); residential solar/wind financial analysis (which typically shoot for an 8-year payback with info provided by Van Wagner, Don O'Brien, and James Turba); and baseload inertia and the need for balanced power (discussion by Mark Metzdorf, David Key, Van Wagner, Ned Mohan, and Don Neumeyer).

Prof. Hawkins started day two (11/06/2020) by addressing questions that weren't answered at the end of day one. Additional questions/topics included: the high cost of decommissioning baseloads; run of the river hydroelectric on flat plane rivers in Quebec & the Ohio River; the efficacy of smart/micro grids and how they should be evaluated per case; and the complexity associated with designing wind turbine systems, see wind turbine design at Wikipedia.org.

Prof. Hawkins spent a little time explaining coal and oil fire systems, and I'll do the same. While cheap and dependable, coal produces a lot of harmful chemicals, has an inefficient supply chain, and efforts to meet environmental and safety standards could nearly be attributed to Rube Goldberg. Meanwhile, oil is largely used for off grid installations, and transporting mass quantities of fuel oil is dangerous.

Natural gas generators have grown in popularity recently as they are significantly cleaner than coal. Unfortunately, fracking is the most common way to produce the required natural gas, and this is expensive as stations must be replaced approximately every 4-5 years. This is in addition to natural gas being finite (~40 years left with current consumption), rigs produce occasional small (3~5 Richter) earthquakes, and the hard, dangerous work associated with natural gas rigs. These issues should be alarming for areas that have a lot of natural gas power.

The meat and potatoes of day two focused on nuclear, and started with old nuclear. Prof. Hawkins provided an insightful history of the nuclear reactor, the Manhattan Project, the Nautilus submarine, and the aircraft carrier reactor that was ultimately installed at Shippingport, PA. It is noted that negative reactions to nuclear are largely unfounded fears as there have only been three major nuclear reactor incidents, and these were all due to *preventable engineering* issues. Meanwhile, large doses of radiation are required to cause cancer, and the body will build a slight resistance to low dose long term radiation. Long-term effects were discussed more during the attendee discussion. The downsides of old nuclear appear to be that; they use only 1% of fuel and can't burn their 99% waste fuel, are expensive to repair, they require extensive security, and the pressurized water systems commonly used are an explosion risk.

Some research has been performed on Uranium Integral Fast Reactors (UIFRs), but these have essentially been killed by politics, and the base of new nuclear that Prof. Hawkins chose is Small Thorium Reactors. Thorium reactors have been referred to as a "chemist's reactor," and based on the what Zane Bell mentioned regarding the chemical products/stages thorium reactors go through that title seems to make sense. China and India are currently leading the research into thorium reactors. China is working on an installation in the Gobi Desert which is a promising experiment for nuclear with minimal water for back end cooling. Meanwhile, India is working a three phase system that is gaining steam in phase two, now that India has been added to the Nuclear Suppliers Group.

Day two concluded with over an hour of attendee discussion. The primary take-aways from this were that regulatory issues are holding back renewables, the hidden chemical dangers of thorium, the long term health issues associated with nuclear, and the need for a coordinated plan for the United States. Kyle Iverson notes that the same amount of paperwork is required whether one wind turbine is being installed or a field of turbines are going in, so the cost advantage isn't there for small renewable installations. Zane Bell provided an in depth description of the requirements for thorium, and how the daughter chemicals from this reaction can lead to extensive and deadly cancers. There was an extensive discussion lead by Diane Henshel regarding the long term issues from radiation exposure. Studies have shown that long term high dose radiation exposure can lead to

miscarriage and birth defects. Sharan Kalwani noted that the primary concern right now is not having a national policy coordinating the concerns with each type of power generation and the need to conserve power.

I've long been a supporter of renewables while understanding that they are more limited than many believe. Across this series, points were brought up that I already understood (renewables being limited by location) as well as points that I had not previously considered (renewables overwhelming the grid and baseloads requiring time to spool up when renewables are no longer producing). Being outside the utility industry I was interested in learning more about each type of generation, and was happily indulged. In the future I'll be watching for advances to new nuclear, and hope to see it come to the US. While this series brought up the issues associated with nuclear, I generally agree with Prof. Hawkins that it is the most effective baseload for powering the world into the future.

Matt Pasternak, PE (FL, IL)

Editor's Note:

Included below are the PDF links, in two parts, to Chuck Hawkins fifth book: "The limits of Renewable and Baseload Energy Sources".

1) https://drive.google.com/file/d/125ZH8G-mqq-ktz3C7OkBpURF50sYpChi/view?usp=sharing and

2) https://drive.google.com/file/d/1eVKhVcntHbhPHfoVt5F_ZvDectynvBWT/view?usp=sharing

Sharan Kalwani,
Wavelengths,
2017 ~ 2020

ESD Gold Award Call

ESD Gold Award Reception & Recognition

March 17, 2021

6:00 p.m. Welcome and Awards Program
Online via the Zoom Platform.

Join The Engineering Society of Detroit (ESD) and its Affiliate Council for a unique event as professionals representing 100+ ESD Affiliated Technical Societies come together to honor and recognize its leaders – engineers, scientists and technical professionals who have distinguished themselves through outstanding achievement and service within their respective Societies.

In its 49th year, The Gold Award has honored presidents of companies and leaders of industry, professors and engineers, entrepreneurs and innovators for their dedication and commitment to their professions.

COST:
Complimentary to ESD members and the Affiliate Society community.

TO REGISTER: For more information or to register, contact Elana Shelef at 248-353-0735, ext. 119, or eshelef@esd.org.

ZOOM RECORDING

PAST AWARDEES

DOWNLOAD GOLD AWARD NOMINATION FORM

SPONSORS

visitdetroit.com

HARTLAND INSURANCE GROUP, INC.

Citizens Insurance

Nomination Deadline: Friday, December 11, 2020 | 5:00pm

ESD AFFILIATE COUNCIL | GOLD AWARD NOMINATION

Candidates shall be of local origin/education and have attained prominence in their engineering or technology related profession.

Recipient must be present at the Gold Award Recognition Program (scheduled for Wednesday, March 17, 2021)

To view a streaming video of last year's event (approximately 1.5 hours long), click this zoom link here.
To see a list of past ESD Gold Award recipients, use this web link.
To nominate a person for the 2021 ESD Gold Award, download the Word document form, which can be found at this link location. Email the completed form to Elana Shelef at eshelef@esd.org.

Sharan Kalwani,
Wavelengths,
2017 ~ 2020

WIE Murder Mystery Night

WIE Murder Mystery Night event 2020

When the crypt doors creak
And the tombstones quake
Spooks come out for a singing wake
Happy haunts materialize
And begin to vocalize
Grim grinning ghosts come out to socialize

The most perfect moment to socialize with 'grim grinning ghosts' is during Halloween. IEEE SEM WIE had organized a murder mystery game night on October 29th, 2020. This after-hours game night gave the guests an opportunity to dress up, enjoy muggle cocktails and get competitive with the ghost to save their lives. We had a decent show up of 6 people to make the night spooktacular. Vickie Ozburn, Region 4 director elect also provided her support through her participation. We could not have expected any more spine-chilling event than getting zoom bombed in the middle of the murder trivia. However, things got back in control immediately, leaving no trace of bombers.

At WIE, we want to encourage more women engineers to collaborate and network to help each rise in this society, in every possible way.

If you are interested in being part of this group and would like to provide your support, please reach out to any one of our officers, Chaitali (crnaik@mtu.edu), Ashfiqua (ashfiqua.connie@gmail.com), Colleen (Colleen.Chmielewski@cai-engr.com).

Chaitali Naik
Electrical Engineer-Electrical Systems Engineering
Commonwealth Associates

EIT 2021 CFP

IEEE

2021 IEEE INTERNATIONAL CONFERENCE on ELECTRO/INFORMATION TECHNOLOGY

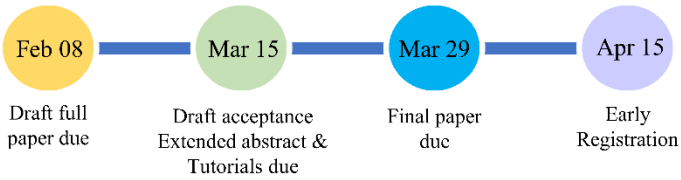
May 13 – 15, 2021, Central Michigan University, Mount Pleasant, MI

Format: Hy-Flex (in-person and remote)

eit 2021

www.eit-conference.org/eit2021

Call for Papers



The 2021 IEEE International Electro/Information Technology Conference, sponsored by the IEEE Region 4 (R4), in collaboration with Central Michigan University (CMU) is focused on basic/applied research results as they relate to Electrical and Computer Engineering, Information Technology, and related applications.

Contribution Categories:

Full paper
Extended abstracts
Tutorials/Workshops
12-hour Hackathon

Topics of interest:

- Ad Hoc and Sensor Networks
- Artificial Intelligence & Deep Learning
- Big Data Processing
- Biomedical Applications, Telemedicine
- Biometrics and Bioinformatics
- Cloud, Mobile, and Distributed Computing
- Computer Vision
- Control Systems and System Identification
- Cyber Physical Systems & Security
- Distributed Data Fusion and Mining
- Diversity, Equity, and Inclusion in Engineering
- Embedded Systems
- Engineering Education
- Intelligent Systems and Multi-agent Systems
- Internet of Things
- Machine Learning
- Micro Electromechanical Systems
- Nanotechnology
- Optics & Photonics
- Power Systems and Power Electronics
- Reconfigurable and Embedded Systems
- Robotics and Mechatronics
- Signal/Image and Video Processing
- Software Engineering and Middleware Architecture
- Smart Grid
- Sustainable Computing and Systems
- Wireless communications and Networking
- 5G and Multi-Gigabit Communications

Organizing Committee:

R4 Conference Committee Rep to EIT
James Riess
EIT Conferences Founding General Chair
Hossein Mousavinezhad, Idaho State University
2021 Conference General Chair
Kumar Yelamarthi, CMU
Program Chairs
Ahmed Abdelgawad, CMU
Constantin Apostoaia, Purdue University Northwest
Hackathon Chairs
Subra Ganesan, Oakland University
Prasanth Yanambaka, CMU
Finance Chair
Steve Kerchberger, IBM
Professional Development Program Chair
Tarek Lahdhiri, General Motors
Exhibits/Industry/Sponsorship Chair
Hamid Vakilzadian, University of Nebraska Lincoln
Publicity Chair
Ahmed Abdelgawad, CMU
Local Arrangements Chair
Prasanth Yanambaka, CMU
Registration Chair
Prasanth Yanambaka, CMU
Publications Chair
Afshin Izadian, Indiana University Purdue University Indianapolis
International Liaisons
Peter Dittrich, Hongwei Zhang, Hsiao-Hwa Chen, Deepak Puthal
Webmaster
Bob Evanich, Duke Energy
Awards co-Chairs
Sat Basu
Hossein Mousavinezhad, Idaho State University

All accepted papers will be published in the conference proceedings, and full papers will be published in IEEE Xplore

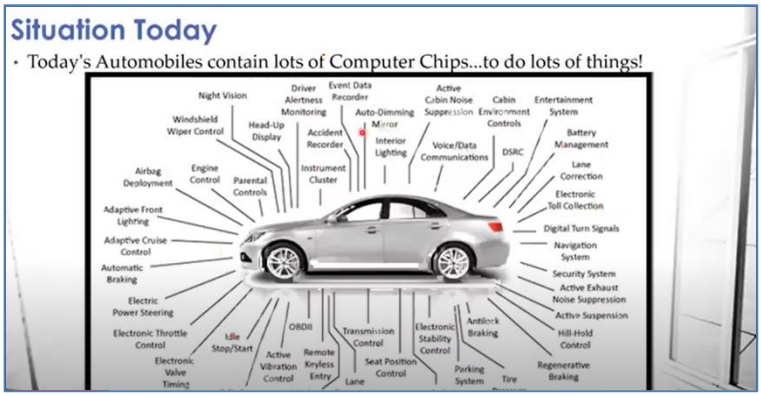
www.eit-conference.org/eit2021

LTU Student Branch news

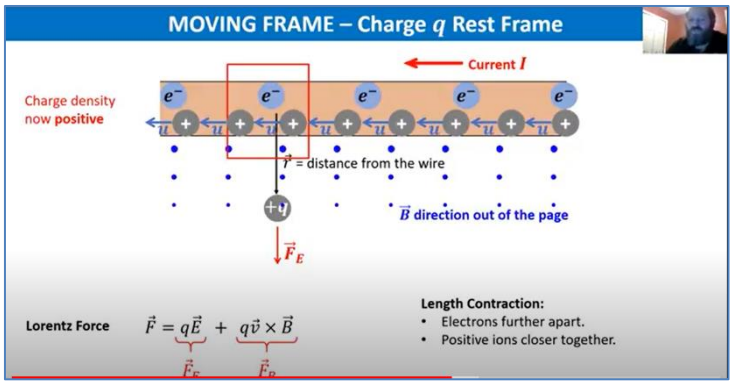
A Successful Virtual Semester for the Lawrence Tech Student Branch

The Lawrence Technological University (LTU) student branch of the IEEE was recently re-initiated by the students. The branch has about 60 student members from various colleges and departments throughout the university. For those of you who may have recently moved to the area, LTU is a small, private university located in Southfield, Michigan. Although the university campus remained open during the current 2020 Fall semester for in-person and hybrid-format instruction and labs, the LTU Office of Student Engagement requested that all student organizations lead their activities virtually during the semester, in observance of the safety of LTU community members. It was a challenge for our student branch to shift all events and activities to an online format, but with great support and creativity, we were able to reorient our activities for a successful, virtual semester for our student branch.

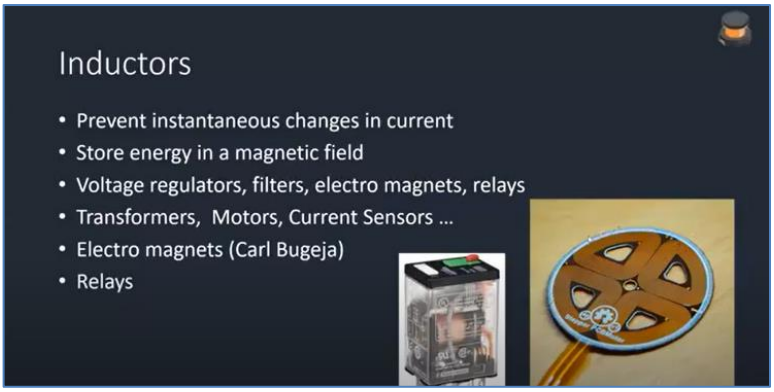
One regular activity that we were able to continue hosting was guest speaker events. This semester, our branch hosted two technical speaker events via the Zoom videoconferencing platform. The first of these talks was presented by our branch mentor - Sharan Kalwani of the IEEE Computer Society chapter and was "*The Rise of Computing in Automotive DNA*" During the talk, he covered an introduction to the history of computing technology in the automotive industry, introduced some examples of modern-day usage of automotive computing technology such as ADAS and V2X, and touched on some future trends and emerging technologies in the field. The event attendees found the presentation to be very informative and beneficial, as many student attendees were interns in automotive companies that use the presented technologies regularly. We really appreciate his willingness to present for our branch as well as the mentorship that he has provided us!



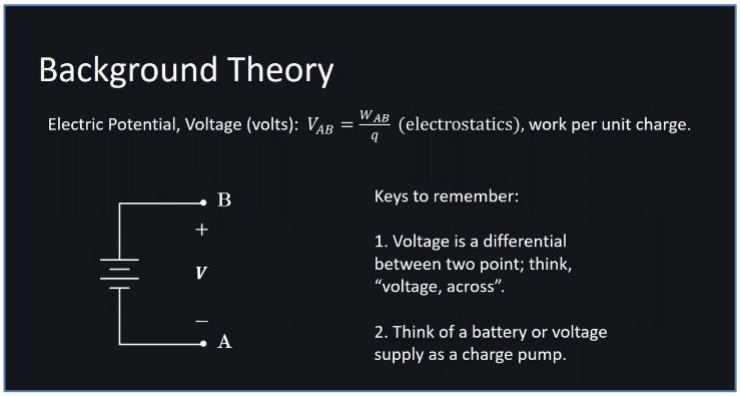
The second speaker event was presented by Dr. George Moschelli, Associate Professor of Physics with the LTU Department of Natural Sciences, and the topic title was "*Do Magnetic Fields exist?*". Dr. Moschelli began by giving attendees an introduction of Einstein's theory of special relativity and its postulates to demonstrate that a stationary observer and a moving observer experience time intervals and measure lengths differently. He then applied the principles of special relativity to electromagnetics to show that electromagnetic fields are similarly experienced differently from frame to frame. An electric field in one frame could be a magnetic field in another frame. Therefore, it is not really accurate to characterize a field as either an electric field or a magnetic field; it is rather only an electromagnetic field. The attendance of this speaker event consisted mostly of underclassmen at LTU who were enrolled in an undergraduate-level general physics course, so they found the presentation to be counter-intuitive and very thought-provoking. We appreciate Dr. Moschelli's eagerness to present for our branch, and we appreciate the willingness of LTU's Society of Physics Students to partner with our branch in hosting and advertising for the event!



In addition to speaker events, our student branch started a new, virtual workshop series this semester, aiming to introduce students – underclassmen in particular – to certain skills and topics that are helpful for their future courses or internships. We held two of these workshop sessions this semester, and we have three more planned for the upcoming semester in 2021. These workshop sessions were led by students from the branch leadership team. The first session covered an introduction to basic electronic components and was presented by our very own branch ***Blue Devil*** motorsports liaison, Austin Wexler. During the session, Austin introduced students to several common electronic components such as resistors, capacitors, inductors, diodes, transistors, ICs, and microprocessors. He covered the basic functionalities of these components and included some examples of the applications of each. He concluded by providing attendees with a list of resources that they can refer to for more technical information on electronics as well as example projects.



The second workshop session covered an introduction to the use and functionality of multimeters and was presented by our very own branch treasurer, Daniel Piotrowski. During the presentation, Daniel covered some basic theory of the operation of multimeters, explained how multimeter measurements are made, showed some live examples of multimeter use, and presented attendees with some tips for purchasing multimeters.



In addition to these professional development events, we continued to host other types of activities that appeal to students across campus. For example, we hosted a virtual trivia night at the beginning of the semester as a "*Welcome Week*" event to socialize and get to know our new members. In addition, we began a partnership with the LTU ***Formula Electric*** team,

through which we have been able to recruit volunteers interested in helping the team and gaining hands-on experience. Furthermore, our branch was able to host a fundraiser with the help of our generous sponsor: ***Adam Electronics***. Adam Electronics is a company based in Madison Heights, Michigan, that specializes in electronics manufacturing. They offer services in PCB layout, system test engineering, IoT development, wire harnesses, and more. Adam Electronics manufactured and donated *AdamOne* kits to our branch, and we have been selling the kits to students and other campus community members to fundraise for our branch. The kits include an *AdamOne* board, which is an Arduino Uno compatible development board, and an additional relay shield for the board. Adam Electronics is a true advocate for promoting student interest in STEM, and these *AdamOne* boards have proven to be a fun way for students to familiarize with and engage in the world of electronics. We are truly honored to partner with Adam Electronics, and we appreciate the support they have provided to our growing student branch!

All in all, despite the sudden need to shift all activities to a new format with no in-person events, the LTU student branch of IEEE has had a very successful and eventful Fall 2020 semester. We have continued hosting various types of events, from professional development presentations to volunteering activities to de-stress events to fundraisers. In the past few months, we have recruited new members, initiated a new partnership with the Society of Physics Students on campus, gained a partner and generous sponsor in Adam Electronics, and networked with many new individuals and groups in the SE Michigan IEEE community. In fact, our branch members have found the virtual format of our activities to be beneficial to them, as it allowed them to attend events more flexibly (at various times and locations), and it gave them access to a wider network of events outside of our branch and local community. We are glad that we were able to continue growing our chapter and creating opportunities for our members, and we really appreciate all of the support that we have had from our mentors, partners, and others who have helped along the way!

All event announcements and material from past events are posted on our website at https://sites.google.com/a/ltu.edu/ieee-lawrence-tech/, so feel free to visit the website for more information. Also, we invite any questions and suggestions be sent to ieee@ltu.edu. Please let us know of any feedback you have or any suggestions you would like to give for improvements, future event ideas, potential partnerships, volunteering opportunities, or anything that our branch can help with. We are always excited to network and connect with new individuals and groups!

Amar Dabaja
LTU IEEE Student Branch Secretary

RoboFest 2020 Report

IEEE SEM sponsored Robofest conquered the challenges of COVID-19 by hosting this year's competitions online. In the 2019-20 academic year, extended into October 2020 due to the pandemic, a total of 1,476 students in 549 teams participated from 13 countries: Canada, Egypt, Ghana, Hong Kong, India, Mexico, Nigeria, Saudi Arabia, South Africa, South Korea, Taiwan, United Arab Emirates, and USA. In the USA, teams were from 5 States: Florida, Illinois, Kansas, Michigan, and Ohio. See the above group photo taken during the Online World Championship events. 546 volunteers including several IEEE members registered as judges, online local judges, proctors, etc. IEEE members who served as volunteers this year were: Batoul Alattas, Ghadeer Alzahrani, Forat Albarnawi, Jood Khoja, Michael Okneski, Sean Denny, Benancio Gonzalez, Wuming Jing, Josh Siegel and CJ Chung.

Robofest contestants received the IEEE SEM sponsored medals (See the left photo above). During the online award ceremony held on October 17th, LTU Provost Dr. Tarek Sobh presented an award of appreciation to David Mindham, IEEE SEM Section Chair, and David gave remarks to congratulate students, introduce IEEE SEM, and encourage students into engineering fields.

- Overview video before the lockdown is at: https://youtu.be/Nnf1iYywOk8
- Highlight video of the Online Championship is at: https://youtu.be/fn35_pQSxnI
- Official annual report can be accessed at: https://robofest.net/2020/robofest20report.pdf

CJ Chung, PhD
Professor, Founder & Director of LTU Robofest
Lawrence Technological University,
21000 West Ten Mile Rd., Southfield MI 48075, USA
www.robofest.net facebook.com/robofest

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 "Computer"	(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,
Wavelengths,
2017 ~ 2020

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. **NOTE: The IEEE SE Michigan section website is changing to its new home, kindly make a note of it! The new home is located at http://r4.ieee.org/sem/.** The old links will continue to work for some time, but will be changing permanently in the near future.

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://r4.ieee.org/sem/
Select "SEM Calendar" button in the top row of the website.

SEM Web Meetings:
http://r4.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

Here are some of the non-IEEE events 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.

Send details to: wavelengths@ieee-sem.org

Michigan Institute for Plasma Science and Engineering: Seminars for the 2018-2019 academic year: http://mipse.umich.edu/seminars.php

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://www.therobotgarage.com/about-us.html

Science Fiction Conventions
https://2021.penguicon.org/

http://www.confusionsf.org/

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

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

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

Executive Committee

The SEM Executive Committee is the primary coordination unit for Southeastern Michigan (SEM) IEEE operations. The basic organization chart below shows the 2019 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://r4.ieee.org/sem/** Click on the "Calendar" button in the top banner on the first page of the web site.

If you wish to attend, or just monitor the discussions, please contact Christopher Johnson, the section secretary at: **cgjohnson@ieee.org** and request to be placed on the distribution list for a monthly copy of the agenda and minutes.

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

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

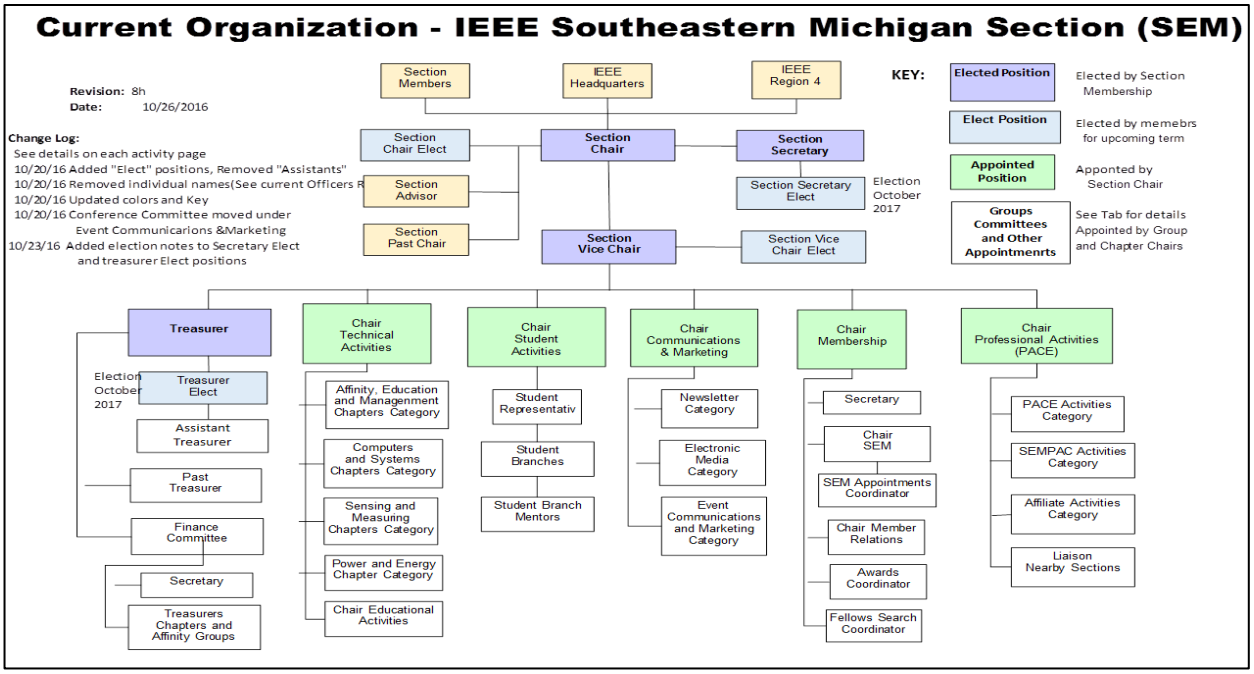
However, members of the section may have multiple technical interests and would like to have meeting information of other chapters. In order to communicate the meeting dates of all the chapters, affinity groups etc., to our members to facilitate their attendance, leaders of the groups are requested to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

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

Automatic e-mail notification of web updates may be received using the "**Email Notifications**" button at the top of the **SEM Tools/Links** side banner.

Christopher Johnson - SEM Secretary

Download the complete SEM Organization Chart, in PDF format, from our Website at: http://r4.ieee.org/sem/
Click on "About SEM" Tab and "Current Officers" ***(NOTE: this is now password protected)***



ExCom Meeting Schedule

NOTE: All SEM members are invited to attend ALL ExCom meetings:

Below is the 2020 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. Information on each Face-to-Face (in-person) Meeting will be sent out once the venue is confirmed.

Please mark your calendars for the 2020 meetings. Or, link your personal calendar to the SEM Web calendar.

Section Administrative Committee (ExCom) Meeting Schedule for 2020:

Note: All IEEE Members are welcome at any IEEE meeting, at any time but please register so we can be sure to accommodate you. This month's meeting is highlighted in **Bold**.

Teleconference, Thursday December 2 https://events.vtools.ieee.org/m/216760

2021 Meeting Schedule:

-

Chris Johnson
SEM Secretary
cgjohnson@ieee.org

Editor's Corner

Previous editions in this series may be found on the IEEE SEM website at: http://r4.ieee.org/sem/. Click on the "Wavelengths" button in the top row of selections.

Comments and suggestions may be sent to the editorial team at wavelengths@ieee-sem.org

OR

sharan.kalwani@ieee.org
d.romanchik@ieee.org
nilesh.dudhaia@ieee.org
k.williams@ieee.org
cgjohnson@ieee.org
lunnmalcolm@me.com
nkaja@umich.edu
akio@emcsociety.org

We rely on our officers and members to provide the 'copy' that we finally present to readers of the newsletter. The **Wavelengths Focus Plan and Personal Profiles** plan shown in the matrix below is presented to ensure coverage of section activities and events.

We try to complete the newsletter layout a week before the first of the month to allow time for review and corrections. If you have an article or notice, please submit it two weeks before the first of the month or earlier if possible.

The plan below relies on the contributions of our members and officers, so please do not be shy. If you have something that should be shared with the rest of the section, we want to give you that opportunity.

You may have noticed a few new items in this month's edition. First of all, we have two entries from our Student Branches: Michigan State University and Lawrence Technological University. Delighted to hear them, please welcome them on-board and the two articles they have contributed, telling us all about them and their activities for 2020.

We also plan on starting a "letters to the Editor" column soon. Feel free to email away to help us get that started!

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.

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

any one of the following:

sharan.kalwani@ieee.org
d.romanchik@ieee.org
nilesh.dudhaia@ieee.org
k.williams@ieee.org
cgjohnson@ieee.org
lunnmalcolm@me.com
nkaja@umich.edu
akio@emcsociety.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*	

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*	

Web & Social Sites

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

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

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

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

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."

Section Officers

Section Chair
David Mindham

Section Secretary
Chris Johnson/
Bhupinder Mavi

Section Vice-Chair
Sharan Kalwani

Section Treasurer
M.P. Florian/
Colleen Chmielewski

Standing Committees:

Section Adviser
Don Bramlett

Chair Communications & Marketing

Chair Educational Activities
Christopher Guirlanda

Chair Finance
Nevrus Kaja

Chair Membership Development
Sharan Kalwani

Chair Nominations & Appointments
Kimball Williams

Chair Professional Activities (PACE)
Sharan Kalwani

Chair Student Activities
Michael Anthony

Student Representative

Chair Technical Activities
Jeffery Mosley

Wavelengths Editor
Sharan Kalwani

IEEE Southeastern Michigan

Electrical and Electronic Engineers Creating Our Future

IEEE Southeastern Michigan

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

Advertising Rates

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

http://www.ieee-sem.org/ewavelengths/?page_id=181.

Please see the information listed on the site, and contact our web editor of e-Wavelengths, Nevrus Kaja, for further details.

Leadership Meetings

SEM Executive Committee Monthly Teleconferences:

- 1st Wednesday or Thursday of Each Month @ Noon
- Check the Section Web Calendar at:
  http://r4.ieee.org/sem/sem-calendar/
  (Select the "SEM Calendar" button in the top row.)

SEM Executive Committee Face-to-Face Meetings:

- Once every 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 Calendar
  http://r4.ieee.org/sem/
  (Select the "SEM Calendar" button in the top row.)

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