Wavelengths

IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

Volume 60 – Issue 05

Contents

Upcoming Events

We have events coming up this month.
All will be 'virtual'. So be sure to check out the Section Website and the article on page 3 to help find those events.

https://r4.ieee.org/sem

As well as the vTools site

IEEE Region 4 - SE Michigan Section Upcoming

As we all 'shelter in place' and maintain 'social distance' we look at the differences between the current Covid-19 pandemic and the 2009 'Swine Flu' and note two significant differences:

- Our communications networks are more pervasive, and
- This flu kills at a much higher rate.

With the ability to transfer the message of the threat presented by the Covid-19 rapidly around the globe, we had the opportunity to take drastic actions to limit the spread. No such actions were taken during the 2009 pandemic, and some sources report that the result was 1.4 billion people were infected around the world. That is over 20% of the planetary population at the time.

Deaths from Swine Flu ran about 0.02% of those infected. Current data for the Corona-19 indicate a rate of 7%! That is over 300 times more deadly. No wonder health scientists are concerned, even frantic.

We have technology on our side to keep us in touch. Read the experience of Chapter 8 with a successful virtual meeting on page 5 and ways to find more virtual IEEE events on page 3.

With the way we are all experiencing the impact of social distancing we can probably expect a changed world in the future as we try to go back to 'the way it was',… and find it no longer is possible, or even desirable.

kw

Chair's Message

2020 continues to bring unique challenges for all of us.

Three great events that were scheduled to be held in Southeastern Michigan have had to be postponed. The IEEE Women in Engineering Leadership Summit has moved to September. The Technology and Engineering Management Conference has had to be postponed and is still TBD. Finally, Robofest, had to be canceled.

More information on all these events is located in this month's Wavelengths.

Since the start of the COVID pandemic, two of Southeastern Michigan's Chapters have held virtual meetings. Chapter 4 (Trident) and Chapter 8 (EMC) have both successfully implemented events fully online.

There is a write-up later in the Wavelengths on the EMC event along with some helpful hints on utilizing Zoom and other virtual meeting platforms. Thank you to Scott and Chapter 8 for the great write-up.

I'm still hopeful that our July Face to Face ExCom can proceed as scheduled, but I'm continuing to monitor the situation and will have an announcement in June.

Lastly, I know this is a time of great uncertainty in many people's personal and professional lives. There are several great resources available through IEEE and locally through our partner organizations. Do not hesitate to reach out to any member of the Executive team with any questions or concerns.

Thank you for reading Wavelengths this month and stay safe.

David Mindham: dmindham -At- ieee.org

Virtually Yours

Many of our Members may not have the confidence to use the vTools system to search for on-line meetings, and some of our officers may want to do a 'search' of the system for 'virtual' meetings outside of our local Section in order to let our members know of them.

However, if you think "I must be doing something wrong!" when trying to use the Advanced Event search function and applying the "Virtual" button. It gives you an Application Error!

I inquired about this with the team at vTools HQ, and Marguerite again came to my rescue. She let me know that this was a known 'bug' and has a ticket created to fix this in the next release.

Meanwhile: She had this advice:
"A simple 'right now' solution: Search and download the results. The virtual indicator will be in the download. You can import results into Excel and filter on that column (J).

I tried this, and it works well and only takes a few steps. I do suggest you download and convert the 'CVS' file to an '.XLS' or 'XLSX' file format right away, then highlight the top line, make it BOLD, move your cursor to line 2 and then use the "Alt+W, F, F" function to make the top line to headers stay put when you sort.

Use the "Alt+D, S' function to set up a sort of the file for "Virtual?", (column "J") and select Z to A for the Order of the sort. That will put the 'Yes' entries at the top of the list. From there sort by whatever criteria you feel best serves the needs and interests of your members.

Let me suggest you sort by Column C (Event Category) first and remove (delete) all the Administrative meetings. Most members seem not to be interested in how the gears turn, and the officers should already be aware of those meetings they should attend.

Then I recommend searching by meeting topics. If it looks interesting to you, it probably will be interesting to your members as well.

When you have selected the meetings of interest, I suggest you remove all the columns except for A (Event Title), B (Event Date ..and time), and Column Q (Event URL). That will provide your members with a listing of interesting events they can link into, while confined to their homes.

Also, encourage your members to go to the URL for events that interest them and Register for the event, if they wish. By suggestion from IEEE HQ and the MGA vTools team, if the sponsor of the meeting is using WebEx, they will not share the WebEx link on the Event site but, they will send the link to the members who are pre-registered for the event to ensure they don't violate the constraints of the GDPR.

As a final aid to your members, stretch the Event Title (Column A) and format the contents of Column A with a 'Wrap Text' command, (Some event titles can be considered 'run on sentences.)

kw

Kids Morse Code Class

Announcing new FREE Kids CW class!
Starting May 6, the Long Island CW Club will offer **FREE** daily classes for elementary school age students and middle/high school age students through our video conferencing platform. As many children are home from school for the next couple of months, here is an opportunity to learn Morse code and keep intellectually stimulated with a fascinating usable radio skill.

Classes will be Monday-Friday:
12-12:30 for elementary students
12:45-1:30 for middle/high school students

Students need parents' permission to register and a parent or guardian needs to be in proximity to the child during classes.

Access to a Morse key and oscillator (to make the sounds) is ideal but not required.

To register contact Rob K2MZ at
K2MZ@yahoo.com, 508-831-8248.

He will need the full name, email, phone, state and how you learned about the classes to register.

This class will move to after-school hours once regular school schedules resume.

We are also planning on an amateur radio license test prep class for kids and youth this summer.

Don't get cabin fever! Learn Morse Code!"

COVID-19 Opportunities

When something like this (a major disruption in the normal course of events) happens, it is time for us to step back, get 'creative' and find ways to accomplish as much of what we believe to be the important tasks on our schedule as we are able.

For IEEE, and in particular, local Section 'Geo-unit' operations, many of us are planning to fall back to operating as 'virtual' organizations. i.e. meetings and presentation events taking place on the internet, using some of the suite of tools provided to us by IEEE MGA, and from other sources.

Officer Administrative meetings:

Many of our Chapters and Affinity Groups have already found that regular, monthly meetings of the executive offices is much easier to schedule and run using 'free' tools such as Google Hangouts, and ZOOM (for 1/2 hour meetings).

Presentations & Tutorials:

The WebEx tool can be scheduled through the vTools site provided by MGA on the primary IEEE website. https://site.ieee.org/vtools/WebEx will allow a large virtual gathering of members to view a presentation which is 'streamed' to their computers, and may even be recorded and placed on a Geo-unit website for a limited time for viewing of members who 'missed' he broadcast.

Social Gatherings / Dinners / Plant & Lab Tours, etc.:

Networking has always been a large part of IEEE events, and social mixing and 'hallway conversations' require the personal presence of both parties which is something that the current situation must discourage. However, arranging 1:1 meetings on-line can still accomplish most of the face-to-face meeting. This is especially true when using tools that provide both voice as well as video connections. (Sorry, but we have not found a way to deliver that slice of pizza in virtual space.)

What this does mean is that you and your officers need to assess what can be done in 'virtual' space and what just must be postponed. This is America. One of the most innovative and creative countries in the world. I expect to see several unexpected solutions emerge from this experience.   kw

Securing ZOOM

Thank you to Scott Lytle, Chair of Chapter 8 for donating this guidance chart.

Chapter 8 Virtual Meeting

Because of the COVID-19 pandemic, we must now use social distancing to hold our IEEE meetings, so we looked into several possible virtual meeting solutions.

Chapter 8 had been using Skype for our monthly EMC committee planning meetings, however, some companies block Skype so we looked for other options. Skype can be very tricky to get working on many computers and I find the video is sometimes blurry or freezes up.

IEEE HQ can provide WebEx for your meetings at no cost. The down side is they need at least 3 business days (up to 5 calendar days) to schedule your meeting. While this may be fine for many, it did not work out for Chapter 8 (EMC) as we were trying to evaluate a few options in a short time, and they could not respond in time. https://site.ieee.org/vtools/tools-ok/webex/webex-registration/

We tried Meetings by Google https://meet.google.com Meetings is a free application and can be used via your IEEE email address (which can actually be a Gmail address now) with your IEEE web credential login. It seemed to work fine.

Lastly we tested Zoom. https://zoom.us Zoom was quite similar to Google Meetings, but had many additional controls and made facilitation much easier.

There are several versions of Zoom. The free "Basic" version limits meetings to 40 minutes. The "Business" version is $2000 per year, but you get 10 logins/admins.

Our EMC chapter purchased the "Pro" version which costs $159 per year and has 1 admin but up to 100 participants. Also Zoom can record and store the entire meeting to share with people unable to attend the live meeting.

On April 9, 2020 we had our first chapter committee planning meeting on Zoom to test it with several participants before rolling it out at our technical meeting the following week. After that experience, we will likely do all of our committee meetings in Zoom.

The first Zoom IEEE EMC Chapter technical meeting was held on April 16, 2020 and it went well.
We had 80 sign up and 65 show up.

There have been a few concerns about Zoom, but we keep the Chapter version updated and follow the recommendations. They recommend using a unique

meeting ID rather than expose your account ID. I used a "waiting room" before allowing people into our meeting. It almost worked, however, sometimes people don't use their real names so I had trouble matching to the roster.

We put the Zoom meeting link on the vTools announcement, however next time, we may only sent out the link to the registered folks.
There is a password option that we may use as well.

There is a Zoom phone app and phone call in option for those without computers or high speed internet. The phone app works rather well. My computer crashed at 5:30 so I started the meeting on my phone app.

We started up at 5:30 to get the bugs ironed out for our 6:00 pm meeting. I left the mics and cameras open for socializing until 6:00 and then muted all except for myself, and the speaker. Some people used the chat window to ask the speaker questions. They recommend turning off private chats but I found it helpful when people were trying to tell me to mute some mics.

We will have a WebEx technical meeting in May, and I will let our Section know how that goes. To learn more, I recommend watching any of the many training videos on YouTube.

Scott Lytle Chapter 8, IEEE Southeastern Michigan

Speaker/Presenter - Scott Piper during April 16th Chapter 8 Zoom technical meeting.

Robofest 2020

Robofest 2020 Report

Due to the unfortunate circumstances of COVID-19, we have made the very difficult decision to cancel most of the qualifying and regional competitions. We also canceled the 2020 Robofest World Championship scheduled for May.

However, Robofest is not completely stopped this year. Currently we are planning online World Championships in August ~ September using Zoom. View-only audience can participate in the event through Zoom-Webinar. Details about the online World Championship events will be announced in May.

Teams can still participate in Robofest through video submissions. The due date for the USA Video Qualifier and International Video Qualifier submission has been extended to Monday August 3, 2020. Before stopping our operations, we have completed the following events:

- Over 20 hands-on robotics workshops at LTU and off-campus sites in Michigan
- 3 mock-up competitions and 1 warm-up competition in Michigan
- 2 qualifying competitions in the USA (Saline Michigan and Oldsmar Florida)
- 8 international competitions (Accra Central Ghana, 3 Competitions in Hyderabad India, Bengaluru India, Abuja Nigeria, Wolfville Canada, and Jeddah Saudi Arabia)

For updates regarding Robofest please visit: www.robofest.net. If you have questions please don't hesitate to contact us at robofest@ltu.edu

IEEE sponsored participation medal

Jeddah Saudi Arabia

In Memorium

MEITZLER, ALLEN HENRY, Ph.D. 1928-2020

Dr. Allen Henry Meitzler, a retired applied physicist with the Ford Motor Company's Systems Research Lab and former adjunct professor on the Dearborn campus of the University of Michigan, passed away peacefully Saturday, March 21, at his family residence in Ann Arbor after a brief illness. He was 91 and lived in Ann Arbor with his family since 1973.

Allen was born December 16, 1928, to parents Herbert Henry Meitzler and Estella Irene Wagner Meitzler in Allentown, PA. He obtained his B.S. in Physics in 1951 from Muhlenberg College, Allentown, PA, where he was awarded a competitive scholarship for his entire undergraduate career. In June of 1953, he married Joan Catherine Egan in Allentown, PA. He then obtained both his Master's in Physics (1953) and his Ph.D. in Physics (1955) from Lehigh University, Bethlehem, PA.

Very soon after graduating with his doctorate and prior to living in Ann Arbor, Allen joined the Solid State Device Development Laboratory of Bell Laboratories ("Bell Labs") and worked in their Whippany and Murray Hill, NJ, laboratories focusing on ultrasonic delay lines, piezoelectric devices, and optical memory and display devices (including the "picture phone").

In late 1972, Allen joined the Ford Motor Company, working as a project leader research scientist/engineer in the Electric Systems Department, Systems Research Laboratory at Ford's Dearborn complex. And in a few months his family joined him in Ann Arbor. Allen's work with Ford encompassed development of temperature-controlled sensors, sensor materials, catalytic converters and emission control systems, A/F sensors, and applications of digital microcomputers for engine controls. He later moved to the Advanced Components and Energy Systems Department, Long Range and Systems Research Laboratory of Ford where he explored fiber optic applications to process onboard vehicle data. Throughout his working life, Allen produced multiple journal articles, technical papers, and earned many U.S. patents.

Allen also was an adjunct professor at the University of Michigan-Dearborn campus from September 1979 until 2011, teaching classes on solid state electronics and electronics engineering in the Department of Electrical and Computer Engineering.

Allen was a member and officer of several professional societies, including the IEEE (Institute for Electrical and Electronic Engineers), the Group on Sonics and Ultrasonics, where he served in a number of capacities: as secretary/treasurer, then vice-chairman and chairman and finally on its Administration Committee as well as being an IEEE Life Fellow. He was a member of the American Physical Society, the Acoustical Society of America, the Society of Automotive Engineers, and the American Ceramic Society. Allen took flying lessons in his earlier years, was a licensed amateur radio operator and had a talent for drawing and illustration. In addition, he enjoyed playing tennis and golfing, and developed an interest in playing the banjo.

Allen is survived by his three sons: Thomas and his wife Carmelita of Troy and two granddaughters, Melanie of Ft. Worth, TX, and Angeline of New York City; Peter, also of New York City; and David, residing in Ann Arbor. Allen's wife, Joan, and brothers, Richard of Kennett Square, PA, and Herbert of Bethlehem, PA, preceded him in death.

A memorial service will be held in Ann Arbor in the summertime. Allen was cremated at his direction and will be laid to rest in Forest Hills Cemetery. Online condolences may be left at www.meitzler.org/allen.

Happy 30th Hubble!

Hubble telescope delivers stunning 30th birthday picture
By Jonathan Amos, BBC news science correspondent
[reprinted by kind permission of BBCnews.com]

It's 30 years ago to the day that the Hubble telescope was launched - and to celebrate its birthday, the veteran observatory has produced another astonishing image of the cosmos.

This one is of a star-forming region close to our Milky Way Galaxy, about 163,000 light-years from Earth.
The larger object is the nebula NGC 2014; its companion is called NGC 2020. But astronomers have nicknamed the scene the "Cosmic Reef" because it resembles an undersea world.

Famously blighted by blurred vision at the outset of its mission in 1990, Hubble was eventually repaired and upgraded. The remarkable pictures it has taken of planets, stars, and galaxies have transformed our view of the cosmos. Indeed, there are those who think Hubble is the most important scientific tool ever built. It's still far from retirement. The US space agency (NASA), which runs the observatory in partnership with the European Space Agency (ESA), says operations will be funded for as long as they remain productive. Last year, its data resulted in almost 1,000 scientific papers being published - so it continues to stand at the forefront of discovery.
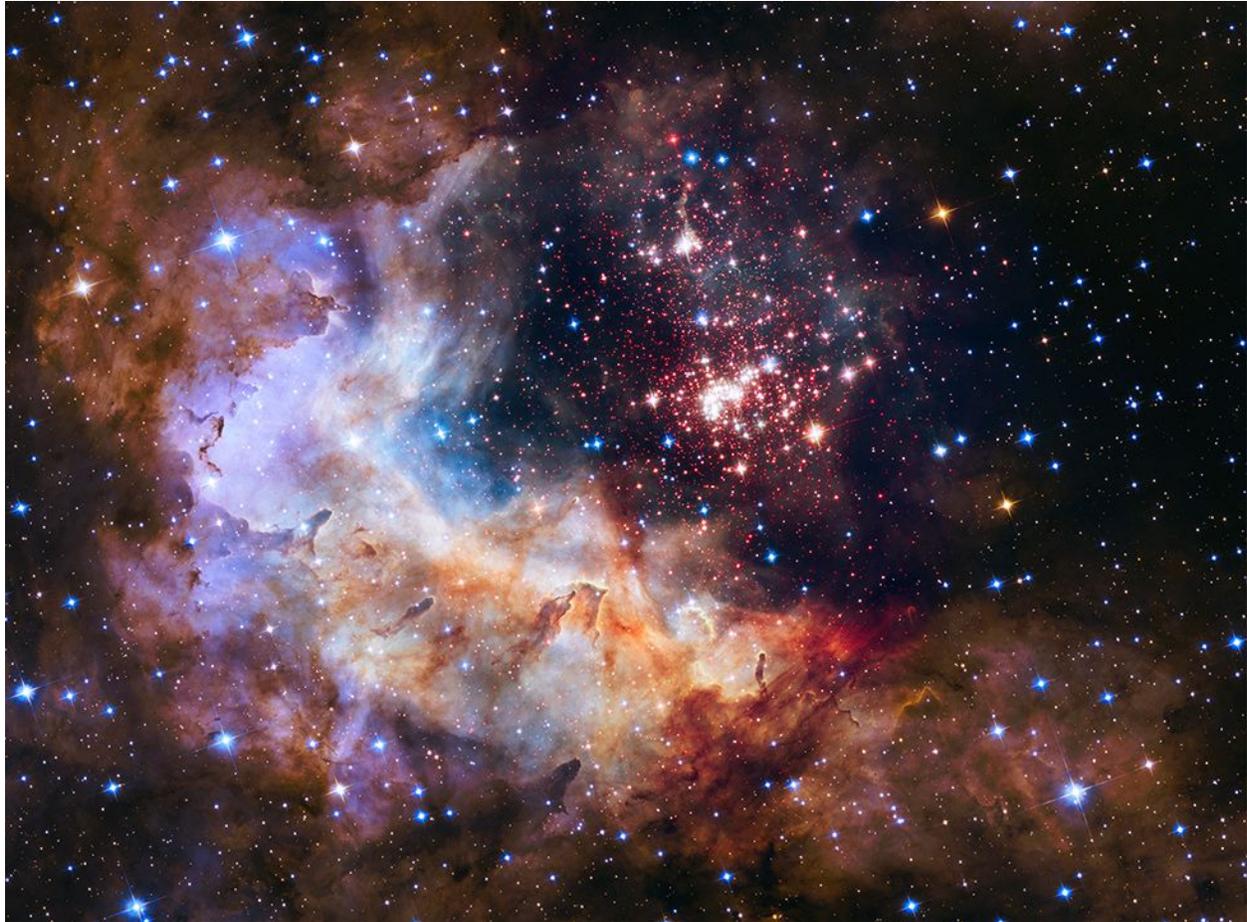
For its 25th birthday, Hubble imaged a giant cluster of stars called Westerlund 2

Engineers obviously keep a watching brief on the health of Hubble's various systems. Pleasingly, all four instruments onboard - the two imagers and two spectrographs - work at full tilt. In the past, the telescope's Achilles heel has been the six gyroscopes that help turn and point the facility, maintaining a rock-steady gaze at targets on the sky. These devices have periodically failed down the years, and during their final servicing mission in 2009 space shuttle astronauts were tasked with replacing all six. Three have subsequently shut down again, but NASA project scientist Dr Jennifer Wiseman says this is not yet an issue for serious concern. "Nominally, we need three gyroscopes, but we can operate on just one due to the ingenuity of the engineers," she asserted. There's a quiet confidence that Hubble can keep working well into the 2020s. It's supposed "successor" - the James Webb Space Telescope (JWST) - is due for launch next year, but the presence in orbit of this more modern observatory will in truth merely just extend capability; it won't make Hubble redundant. That's because the new facility has been designed to see the cosmos at longer wavelengths of light than Hubble. The duo will be complementary and will on occasion actually pursue targets together to get a fuller perspective. This is an exciting prospect for astronomers everywhere - but especially for those in Europe where Hubble has been such a rewarding endeavor, says ESA project scientist Dr Antonella Nota. "From the memorandum of understanding there was a guarantee that European astronomers would get 15% of observing time for the duration of the mission. If I look back at how much time European astronomers got - on average it's 22%. And it is a peer-reviewed process so we never needed to put a finger on the scales. European astronomers are creative; they're smart; they're doing leading-edge science," she told BBC News.
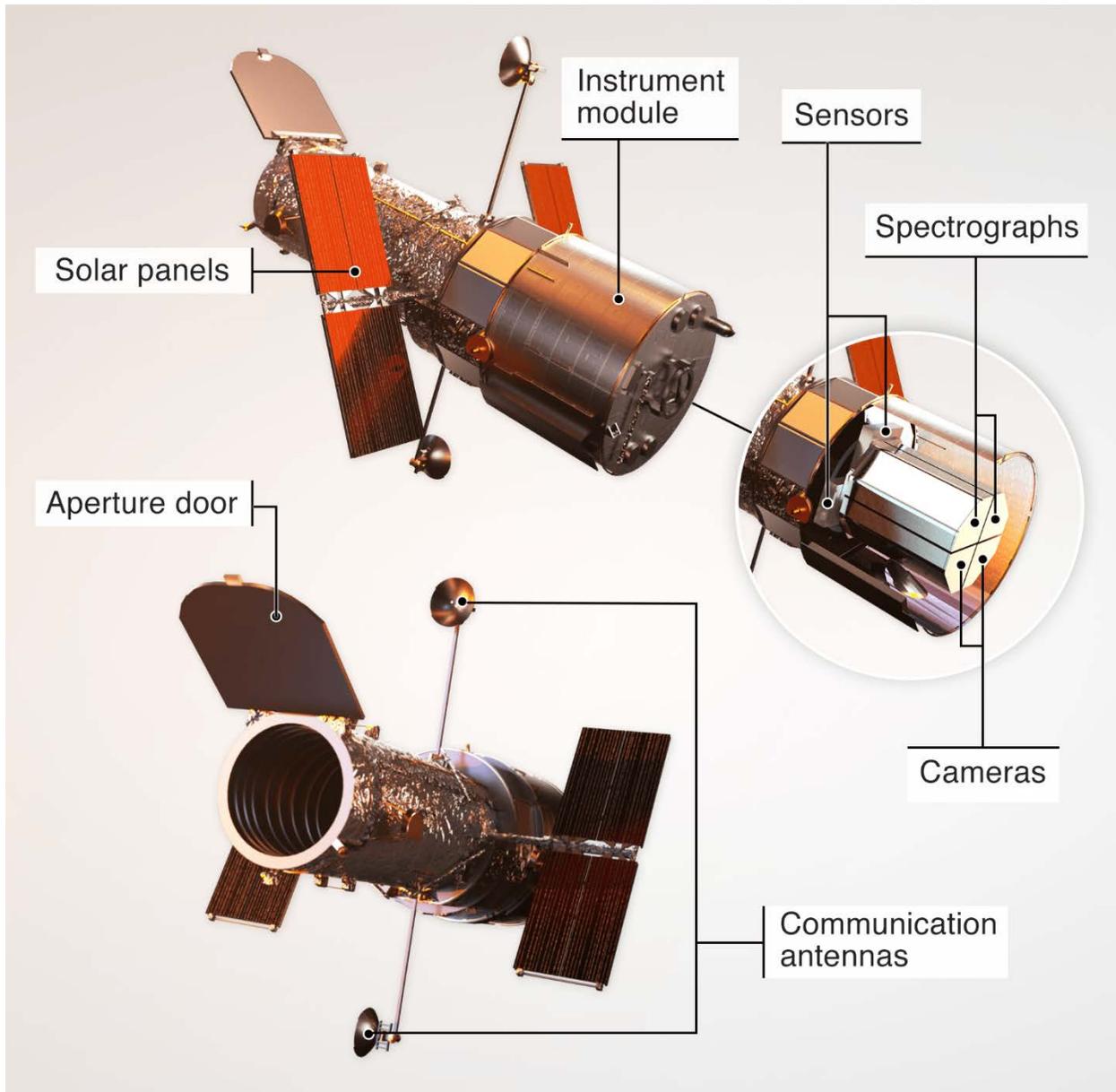
Source: Nasa

BBC

What has Hubble contributed to science?

It's a bit of a cliché, but Hubble has truly been a "discovery machine". Before the telescope launched in 1990, astronomers didn't know whether the Universe was 10 billion years old or 20 billion years old. Hubble's survey of pulsating stars narrowed the uncertainty, and we now know the age extremely well, at 13.8 billion.

The observatory played a central role in revealing the accelerating expansion of the cosmos - a Nobel Prize-winning breakthrough - and it provided the definitive evidence for the existence of super-massive black holes at the center of galaxies.
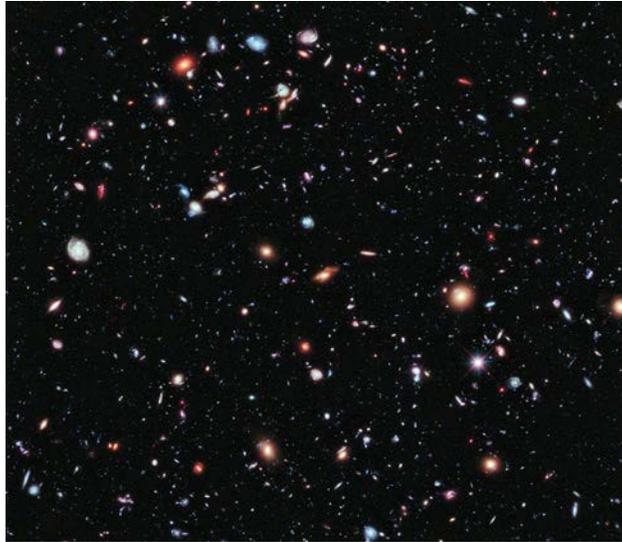
The Deep Field images require Hubble to stare at the same patch of sky for days on end

It's amazing to think that when Hubble launched, scientists had yet to detect the first exoplanet, the name given to a planet orbiting a star other than our Sun. Today, Hubble is pioneering the study of these far-off worlds, examining their atmospheres to try to gauge their nature. And although the sparkling eight-meter-class ground-based telescopes can now match - and even exceed - Hubble's skill in certain fields of study, the space telescope remains peerless in going super-deep. Its so-called Deep Field observations in which it stared at a small patch of sky for days on end to identify the existence of very distant, extremely faint galaxies are one of the towering achievements in astronomy. These studies have shown us what the Universe was like just a few hundred million years after the Big Bang. Only JWST, with its finely-tuned infrared detectors, will go deeper still.

A Hubble classic: The Veil Nebula is the expanding debris of an exploded star

Kathryn Sullivan was one of the astronauts onboard Space Shuttle Discovery when it released Hubble into its 612km-high orbit on 25 April, 1990 - a day she recounts in a recent book, Handprints On Hubble. "Hubble's scientific impact has just been immense. But what I had not really appreciated until I started writing my book was the extent to which Hubble - because of its gorgeous images and their mind-bending implications - has really permeated popular culture," she told BBC News. "I see Hubble on the side of U-Haul (rental) trailers, on tattoos, on lunchboxes, on shirts, in advertisements, almost ubiquitously. "And I think part of that is down to Hubble coming into service just as the internet was becoming the thing we now know it to be. That's put the pictures right in front of people."

JWST will study the Universe at longer wavelengths of light

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Sharan Kalwani
Wavelengths Team,
2017 ~ 2020

Engineering in the UK

Engineering in the UK - Mind the Gap

From Alexander Graham Bell and John Logie Baird to Michael Faraday and James Dyson; the UK has been home to some of the world's most famous engineers throughout history who have revolutionized technology.

In fact, the UK currently has the 6th largest electronics industry in the world, with over 1 million related jobs and an annual turnover of £98 billion, making up 6% of the overall GDP.

14 of the world's top 20 semiconductor companies also have design or manufacturing sites based here, with 90% of smart phones containing electronics designed on these shores.

That all seemingly points to a very rosy looking outlook for engineering in the UK, but the messages coming from the majority of electronics and technology companies who are hiring does not reflect this.

Mind The Gap

Alex Depledge is one such employer, having co-founded the online platform Hassle in 2012, before selling it three years later for £24m. She is now an entrepreneur in residence at Index Ventures, and chair of The Coalition for a Digital Economy.

Speaking to the BBC Alex said, "Engineers are the lifeblood of technology companies and they are in such short supply in the UK.

"If you get another big technology company come in to town then the first thing that I do is inwardly grown, as I know that it will be even harder for me to recruit the talent that I need to grow my business and get it towards that kind of level.

"We literally had engineering vacancies open for six months, because we couldn't find the engineers."

On Tuesday the Institution of Engineering and Technology released their eleventh annual 'Engineering and Technology Skills and Demand in Industry report', which revealed some extremely worrying statistics about the engineering education sector in the United Kingdom. 62% of engineering employers say graduates don't have the right skills for today's workplace, while 68% are concerned that the education system will struggle to keep up with the skills required for technological change.

Depledge believes that the government should be focusing their time on helping to ensure that the country has the depth of engineers to fulfil the nation's requirements.

"It's great that Theresa May has just given £50m for grammar schools, but I would have much preferred to see that spent on digital apprenticeship schemes, where kids coming out of that apprenticeship could walk straight in to a job being paid in excess of 50k a year.

"We've got a real dire need for engineering talent in this country."

Amateur Radio 3

The 2nd FCC Defined Purpose for Hams:

Last month in this column, we looked at the second of the 5 basic reasons why the US Federal Government established the Amateur Radio Service.

This month, I want to focus on the 3rd purpose in CFR part 97.1…

(c) Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communication and technical phases of the art.

Radio communications is more than just talking or sending Morse code messages from on ham to another, although that has been the basis for some very interesting innovations in communications over the years.

When Amateur Radio began, its first 'language' was in the 'dits' and 'dahs' of the Morse code and a large population of Hams still communicate in that way.
But another contingent has developed a rapidly growing number of 'Digital Modes' which allow communications via computer programs run by radio amateurs, and sometimes run by the computer program alone.

Some of these digital modes allow communications when the signal is several dB below the received noise floor!

Another group of dedicated microwave focused Hams communicate regularly using signals bounced off the moon.

Others spend their valuable time passing messages from their neighbors to relatives around the planet and honing skills that we need in the event of a local or wider emergency that crashes our cell phones and satellite and wipes out the power distribution infrastructure. These events occur with enough regularity that Hams train for these emergencies all year long.

The results of this dedication and training has been the development of more robust communications systems that can be deployed to disaster areas within a few hours to relieve the communications burden of 'Health and Welfare' messages from the government systems to permit their work to move forward more efficiently.

At least once each year Hams through North America dedicate a weekend to "Field Day" in which they leave the comfort of their normal station and spend 24 hours 'Off Site' operating without normal power connections using 'emergency' transceivers and makeshift antennas in order to verify both their equipment and operating skills under conditions that simulate a serious emergency.

These skills and technical abilities have often meant a life and death difference during severe disruption due to catastrophic storms, earthquake, and volcanic eruption around the world.

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Shown below, is a part, excerpted from the United States Code of Federal Regulations (CFR),
CFR Title 47: Telecommunication

"The rules and regulations in this part are designed to provide an amateur radio service having a fundamental purpose as expressed in the following principles:"
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PART 97—AMATEUR RADIO SERVICE
§97.1   Basis and purpose.

(a) Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications.

(b) Continuation and extension of the amateur's proven ability to contribute to the advancement of the radio art.

(c) Encouragement and improvement of the amateur service through rules which provide for advancing skills in both the communication and technical phases of the art.

(d) Expansion of the existing reservoir within the amateur radio service of trained operators, technicians, and electronics experts.

(e) Continuation and extension of the amateur's unique ability to enhance international goodwill."
(The underlines above are my addition to the text.

COVID Resources

COVID-19 Resources

In February 2020, the Centers for Disease Control (CDC) warned that the United States should brace for a domestic coronavirus outbreak. The quotes were something along the lines of not "if" but "when". Since the last 2 months, the number of confirmed cases of COVID-19 in the U.S. rose dramatically, and the U.S. now has the highest confirmed case count in the world. As of April 29th 2020, over 1,000,000 people across every state, Washington, D.C., and four territories have tested positive for the disease. Even more grim is that, more than 60,00 patients with the virus have died in the U.S., more than the toll in Vietnam.

- Globally, more than 3 million confirmed cases of COVID-19 have been reported in 177 countries, with at least 200,000 deaths so far.
- The New York *Times* reports that rates of testing still vary widely from state to state, and that the total number of infected individuals, as well as the true death toll from the virus, is likely much higher than the official count.
- Additionally, new research suggests that COVID-19 cases were spreading rapidly in the U.S. far earlier than was reported.
- New York has had by far the largest outbreak in the country.
- New Jersey is also among the states that have been hardest hit by the virus, along with Massachusetts and California.
- For a while Michigan was ranking #3 in the country from this outbreak, but has now dropped to 37, largely due to "stay-at-home" and "social distancing".
- The widespread lockdowns have had serious economic consequences: More than 26 million Americans have lost their jobs since the coronavirus outbreak began. The economy shrunk by 4.8% during the last quarter with more to come.
- In most cases, COVID-19 is not fatal, but it appears to pose the greatest risk to elderly people and those with preexisting conditions that compromise their immune systems. Doctors and medical workers may also be at greater risk, due to their higher-than-average odds of exposure.
- If you have symptoms associated with coronavirus — coughing, fever, respiratory issues — call your doctor before showing up at their office: The virus is highly contagious and you want to limit the possibility of spreading it. If you are sick, the CDC recommends that you stay home and self-isolate, confining yourself to one room as much as possible and wearing a face mask when you have to interact with others. Wash your hands frequently — soap and water and at least 20 seconds of scrubbing — and avoid touching shared household items, cleaning "high-touch" surfaces (like your phone**)** regularly. Your health-care provider and even local health department will help you determine how long it's appropriate for you to keep up these precautions.

Regardless of whether or not you have symptoms, though, keep your hands clean, and seriously, stop touching your face and just stay home. Here is a list of web sites for the further tracking information. They present the latest data and visually present it in good detail:

1. John Hopkins University & Medicine, Coronavirus Resource Center - https://coronavirus.jhu.edu/
2. British Broadcasting corporation (BBC) Tracking the global outbreak - https://www.bbc.com/news/world-51235105
3. University of Oxford, Our world in data - https://ourworldindata.org/about
4. Information is Beautiful, a visualization of various risk - https://informationisbeautiful.net/visualizations/covid-19-coronavirus-infographic-datapack/
5. New York Times, (free access) Mapping the Social network of the Virus - https://www.nytimes.com/2020/03/13/science/coronavirus-social-networks-data.html
6. National Public Radio news website special on Coronavirus updates - https://www.npr.org/sections/coronavirus-live-updates/
7. Live Science (in co-operation with Scientific American magazine) - https://www.livescience.com/why-coronavirus-slipped-under-radar.html
8. The Financial Times - https://www.ft.com/coronavirusfree
9. Microsoft Internet Search Engine – Bing – https://bing.com/covid
10. Centers for Disease Control (CDC) – www.cdc.gov

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Sharan Kalwani,
Wavelengths Team,
2017 ~ 2020

Work / Life Transition

How to Transition Between Work Time and Personal Time

by
Elizabeth Grace Saunders

April 09, 2020

Physical presence doesn't always equate to mental presence. You could be sitting at your desk but more preoccupied about a home repair than the assignment at hand, or you could be at the kitchen table thinking more about the proposal you have to finish than the people eating dinner with you. That's why transitions from work mode to personal mode are so essential. And you have to make an especially intentional effort on these transitions when you work from home because you don't have the natural change of context cues.

In my experience as a time management coach, here are some of the ways to be less distracted and more present whether you're working or enjoying personal time.

Have a starting work routine

Mr. Rogers knew how to do transitions right. Many generations of children knew that when he was singing his iconic "It's a Beautiful Day in the Neighborhood," changing his sweater, and then putting on different shoes that it was the start of their time together.

You don't need to sing when you start work (unless you really want to), and you don't need to switch sweaters. But you can have certain things that you do in the same way each morning — even if you work from home. Maybe it's putting your dishes in the dishwasher, turning off the lights that may be on around the house, getting a cup of coffee, and then sitting down at your computer. Or maybe it's doing a quick workout, showering, and then turning to your phone to check email. Whatever works for you, try to do those activities in the same way each day. The point behind this is to prime your brain that this is now "work" time.

Make a plan

To increase your productivity and clarity both for work and life outside of work, have a plan for the day. That includes knowing the time of your meetings, deciding what projects you will work on, and being clear on when you will do tasks like answering email. You'll also want to have some plan for your evenings in terms of what you would like to get done or simply do to relax. Knowing that everything has a "place," such as a time during your work day when you will work on a presentation or a time in the evening when you can research activities for your kids, helps you to not feel like you *have* to do work during personal time or vice versa.

The most common times people make these daily plans are in the morning at the start of work, as they wrap up their work days, or in the evening before bed. Choose the time that's best for you, and then put a recurring reminder in your calendar to prompt you to build the habit.

Prioritize your communication

It's understandable that you may need to have some personal communication during work hours and some professional communication after hours. But prioritize your communication based on context. During the hours when you want to focus on the job, try to reduce your personal communication. For example, you could group together answering non-urgent personal texts to a few times during your work day and, in general, avoid long stretches on social media. After those hours, do the opposite. Stay away from work email and only answer work calls and texts in the evening if they are absolutely necessary.

This will not only keep your time invested in the right places but also keep you mentally present in both your professional life and personal life.

Set a wrap-up routine

To make sure you can be fully off-the-clock later in the evening, have a wrap-up routine that you start at least 30 minutes before you need to end work. This could include doing a final check to make sure that all critical emails have a response, looking over your task list to know that you have completed what's essential, and if you do realize that you will need to work later at night, decide on exactly what you will complete and when. For example, you might determine, "I will review this proposal for an hour or less starting at 8 PM." The reason it's good to have that specificity is then you won't have a cloud over your head all evening that you should probably do some work without a clear sense of exactly what you will do and when. You can mentally disconnect until 8 PM and then also feel free to completely stop at 9 PM. when the objective and the time frame are clear.

Focus takes intentional effort and can feel difficult at times, especially in the midst of massive uncertainty. But by following these tips, it is possible to be present most of the time when you're working or in your personal time.

Elizabeth Grace Saunders is a time management coach and the founder of Real Life E Time Coaching & Speaking. She is author of *How to Invest Your Time Like Money* and *Divine Time Management*. Find out more at www.RealLifeE.com.

TEMS Conference

IEEE TEMS

Call for Papers

2020 International Conference
IE... ...y and Engineering Management Society (TEMS)

◆IEEE Advancing Technology for Humanity

TEMSCON 2020
...mbassy Suites by Hilton Detroit
...onia Novi, Michigan (USA)
...9525 Victor Parkway
...Livonia, MI 48152
...20.temscon.org

...e 3-6, 2020

Managing the ...ent of Connected Systems

The greater Detroit area has a long history ...ineering and manufacturing automobiles. With the ever-accelerating progress on innovation and a pu... ...ly automated, connected and electrified vehicles, Detroit remains the heart of the automotive industry. ...an has also diversified its economic base in emerging technology areas including information tech... ...care and biomedical, power and energy, advanced manufact... ...education and research. We invite contributions from engineer... ...rchers, educators, innovators, entrepreneurs, and students ...e the understanding and the state of practice related to suc... ...and engineering management. Contributions may be re... ...al. Research papers may be conceptual, empirical, or theore... ...t discuss how the results could be applied in practice. Practic... may consist of case studies, description of best practices ...experiences, but they should also shed light on new challenge... ...future issues, which could be addressed by the research community. We thus provide a venue where d... ...iew interact to yield new understanding and ideas on leading innovation as well as the future of technology ...management.

- Paper Submissions Due: 29 Feb 2020
- Notification of Acceptance: 28 Mar 2020
- Revisions Due (For Papers Requiring Revisions): 18 Apr 2020
- Final Papers Due: 2 May 2020

Selected papers will be invited to submit to the *IEEE Engineerin... ...Review* or *IEEE Transactions on Engineering Management.*

Topic areas include, but are not limited to, the following:

- *Innovating in rapidly changing markets and sectors, e.g., biotech... ...ms, manufacturing, etc.*
- *Leading and managing innovation and transformation*
- *Adopting new technologies: challenges and risk mitigation*
- *Management of software versions and their interoperability among ...icle ages and makers*
- *Understanding trends and applicability of new technologies*
- *Leveraging enterprise data, e.g., successful use of AI, analytics, blockchain, IoT*
- *Leading societal change, e.g., mobility, intelligent transportation, health care, public policy*
- *Enhancing industry, university, and/or government collaboration*
- *Developing personal skills for leading innovation initiatives*

In addition, we invite proposals for half-day workshops, including special sessions from other technical societies, related to the conference theme.

Industry perspectives will be featured throughout the meeting via panels and plenary talks.

Conference attendees will have the opportunity to visit nearby Detroit area landmarks including the Henry Ford Museum, Greenfield Village, Detroit Institute of Arts, Motown Museum, and Automotive Hall of Fame.

Organizing Committee:
Conference Chair – Liang Downey, lxdowney@ieee.org
Program Co-Chairs – Jason Hui, jason.k.hui@ieee.org, Tugrul Daim, ji2td@pdx.edu
Publications Chair – Ed Perkins, a.perkins@ieee.org

Update: 27-March – Next Page

S.E. Michigan TEMS Society Chapter 10 Challenge:

Update: 27-March

The TEMSCON 2020 committee and IEEE have been monitoring the developing COVID-19 pandemic (Coronavirus)

The safety and well-being of all conference participants is our priority. After studying and evaluating the announcements, guidance, and news released by relevant national, state and local departments, we are sorry to announce that TEMSCON 2020, scheduled to be held in Detroit on June 2-5, cannot be held as an in-person event as we originally planned.

We are committed to ensuring that the accepted papers can be presented and published in a timely and safe manner.

We are looking into our options in terms of deferring, postponing or cancellation of the in-person event at TEMSCON 2020. And our options for virtual presentations. In the meantime, we are continuing to accept and review papers as planned. Submission deadline is 31-March.

We will provide more information on the situation shortly. We thank you for your understanding.

Please check back for the latest status. http://www.ieee-tems.org/

ZF Employment Ad

Section Matters

Joint Chapter Meetings: A Painless Way to Keep Current

Engineering, as are most disciplines in the world, is evolving. Electrical engineering is evolving very rapidly. How many of today's EEs know the function of a suppressor grid or the task of a 6SN7? Software was the domain of mathematicians and the occasional scientist. Solid state was the domain of physicists and chemists. The challenge for today's engineer is to stay apace with rapid technological advancements.

IEEE has Sections that focus on EEs staying current in their field and exploring other areas through a variety of ways, including conferences, meetings and courses. IEEE SEM has all of these available. Since there is a finite amount of time to attend meetings, conferences and take courses, the challenge is to become more efficient in staying current and expanding one's networks of contacts and interests. Holding joint meetings with other Chapters is an easy solution. Joint Chapter meetings lighten the administrative burden while reducing the cost for each Chapter. A joint meeting can allow exploration of an area that is a complimentary field of interest, or is one you always wanted to know about. What better way to do this than by having a joint meeting?

Chapter officers should contact one (or more) of their fellow Chapter officers to explore scheduling a joint meeting. Chapter members should let their officers know which Chapters they would like to join with for a meeting. Joint meetings are easy, reduce administrative burden and expenses, and can even be fun. Joint meetings are a painless way to expand everyone's horizon.

Joe Giachino

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

Section Goals

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

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

ORG UNITS crib 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

IEEE Student Branches in Southeastern Michigan Section (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 Team,
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://2019.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 2020 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 Eric George, the section secretary at: **eric.george.us@ieee.org** and request to be placed on the distribution list for a monthly copy of the agenda and minutes.

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

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

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

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

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

Christopher Johnson. Secretary

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".

Current Organization - IEEE Southeastern Michigan Section (SEM)
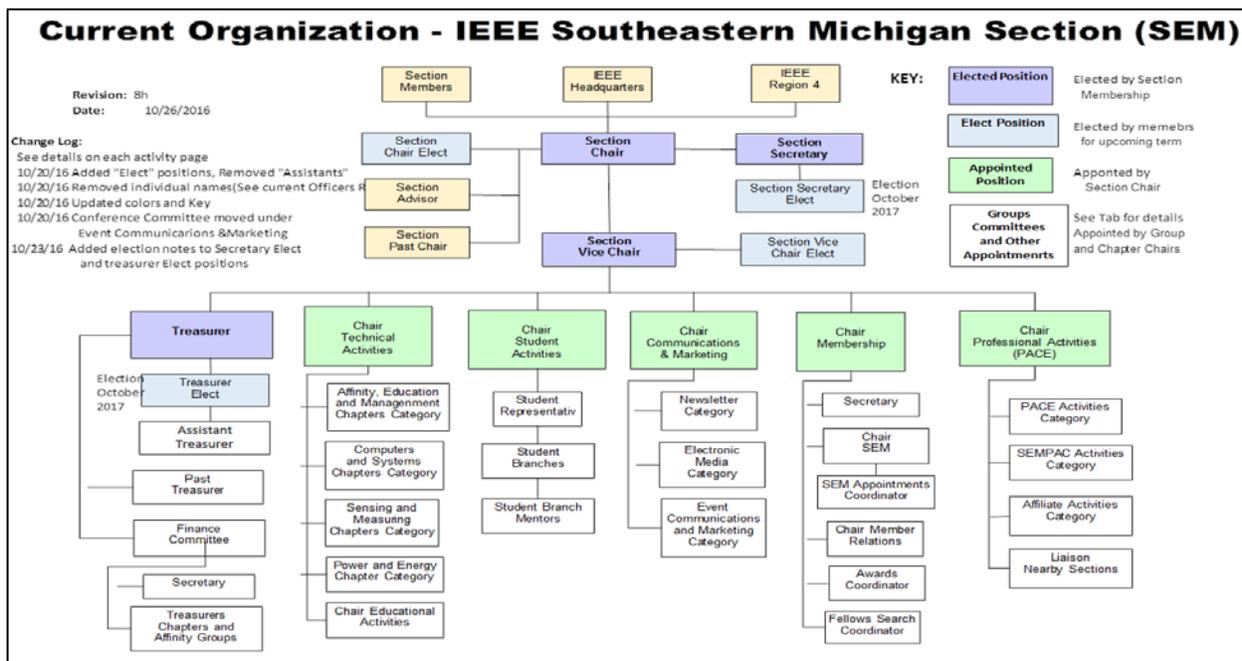
ExCom Meeting Schedule

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.~~

Contact our Section Secretary, Christopher Johnson for a copy of the meeting Agenda and details of the on-line meeting arrangements. **cgjohnson@ieee.org**

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:

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

Virtual meeting links are only to members who <u>register for the meeting!</u>

This month's meeting is highlighted in **Bold**.

WebEx Meeting, Wednesday May 6 https://events.vtools.ieee.org/m/216752

Teleconference, Thursday June 4 **https://events.vtools.ieee.org/m/216754**

FACE TO FACE, Wednesday July 8 **<u>https://events.vtools.ieee.org/m/216970</u>**

Teleconference, Thursday August 6 **https://events.vtools.ieee.org/m/216755**

Teleconference, Wednesday September 2 **https://events.vtools.ieee.org/m/216756**

FACE TO FACE, Thursday October 7 **https://events.vtools.ieee.org/m/216971**

Teleconference, Wednesday November 4 **https://events.vtools.ieee.org/m/216759**

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

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
nilesh.dudhaia@ieee.org
k.williams@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 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
nilesh.dudhaia@ieee.org
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	

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

Section Vice-Chair
Sharan Kalwani

Section Treasurer
Michael Folian

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
Mel Chi

Student Representative

Chair Technical Activities
Jeffery Mosley
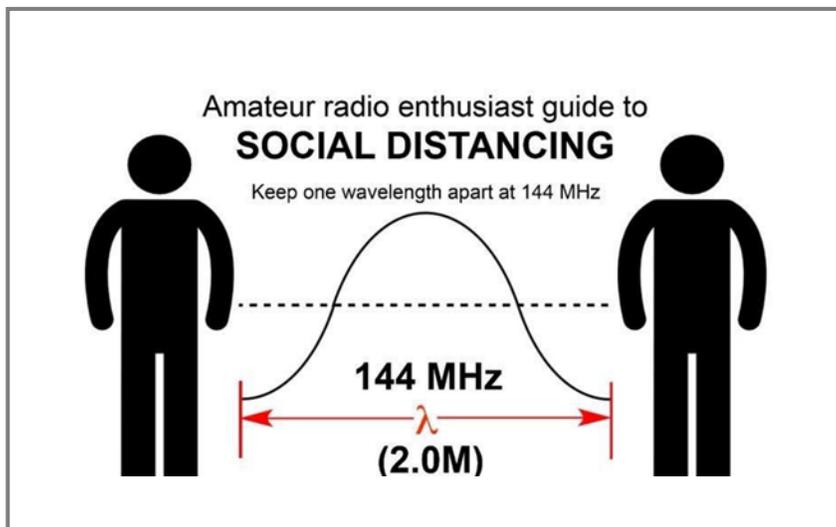
IEEE Southeastern Michigan

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

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**