# Wavelengths

Volume 60 – Issue 10

## Contents



## 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 |
|---|---|---|
| AI and Supply Chain Analytics | 01 Oct 2020 | 10:00 AM |
| The Rise of Computing in Automotive DNA | 01 Oct 2020 | 12 noon |
| AI & Supply Chain Analytics (Day 2) | 02 Oct 2020 | 10:00 AM |
| Introduction to Embedded Systems (part 1) | 03 Oct 2020 | 09:30 AM |
| IEEE Day 2020 | 06 Oct 2020 | 11:45 AM |
| SEM Section ExCom Monthly Meeting for October 2020 | 07 Oct 2020 | 5:00 PM |
| Ch8: AdCom Teleconference | 08 Oct 2020 | 11:00 AM |
| Introduction to Embedded Systems (part 2) | 10 Oct 2020 | 09:00 AM |
| Does Science Fiction Influence Technical & Social change? | 10 Oct 2020 | 11:30 AM |
| Automotive Software Cyber-Security challenges and methods | 13 Oct 2020 | 6:00 PM |
| Embedded Systems Workshop 2020 - Day 1 | 17 Oct 2020 | 08:00 AM |
| Intro to Multimeters Session | 21 Oct 2020 | 12 noon |
| Embedded Systems Workshop 2020 - Day 2 | 24 Oct 2020 | 08:00 AM |
| IEEE SEM WIE Murder Mystery Night | 29 Oct 2020 | 5:30 PM |

## Chair's Message

**Welcome to the October issue of the Wavelengths**

The days are getting shorter and the air a bit cooler, and you know what that means…. It's election time. No, I'm not talking about the presidential or local elections. I'm talking about the yearly IEEE elections. Voting ends shortly on the IEEE Society elections, but the SEM Section elections are just kicking off. Soon you will receive an email to vote for our Executive Committee and local Society Officers. The call for nominations has ended, but there is still time to get involved with our numerous positions. Reach out to any of our current officers to find out how!

The Section has several exciting virtual events in October. On October 10, we are hosting "Does Science Fiction Influence Technical & Social Change?". This is a one of a kind event, unlike any we have seen. There are several panels and networking exploring Science Fiction's role in society. I'm excited for the event.

The Computer Society is also hosting its annual Embedded Systems Workshop. Every year this event attracts many attendees and has continuing proven to be of the highest quality.

Finally, I'm happy to announce that the Southeastern Michigan Section has reached its 2020 Member Retention goals and received an award. Retention can only be achieved when local volunteers are taking the time to plan thoughtful and engaging events. 2020 has proven that our volunteer's resiliency is unparalleled. Our members have planned thoughtful "virtual" events that have highlighted the value of IEEE membership.

Thank you for reading this month's Wavelengths and stay safe.

Thank you for reading this month and stay safe.

David Mindham
**dmindham -At- ieee.org**

## 2020 Voting

**2020 SEM Election Votes**!

**Elections in 2020:**
Because of the 'staggered terms' that were enacted with the 2015 elections, this year we will elect our Section: Secretary-Chair and Vice-Chair-elect for their training terms.

**Affinity Groups and Technical Chapters:**
Officer elections are held each year for all of the Section's 4 Affinity Groups and 17 Technical Chapters (geo-units).
- Chair,
- Vice-Chair,
- Secretary,
- Treasurer,

The pre-election candidate registration process received only 'anemic' attention from members this year, and we will have a large number of "write-in" positions.

We encourage anyone interested in 'learning-by-doing' who wishes to develop their management and team building skills to step up to an officer position, and help organize and run one of our technical chapters or affinity groups, in one of the otherwise vacant officer positions.

**2020 Election Schedule:**
Our current plans for the election schedule this year are:
October 1: Open Ballots for all positions.
October 26: Close all Ballots and correlate results.
This will give everyone over three weeks to vote.

**Requirements:**
Note that holding office in any Affinity Group (AG), or Technical Chapter (Ch), requires membership in the AG or Ch., in addition to membership level above Student level.

**Which Chapter is mine?**
It has come to our attention that many members may know which Affinity Group or Technical Society they have joined but, may not know which local Southeastern Michigan Geo-unit supports members of that particular organization. To help unscramble that situation, Sharan Kalwani created the "**ORG UNITS cheat sheet**" which can be found on Page 17 of this month's Wavelengths. The easy way to use it is to go to the page, and do a 'search' <Control F> and enter one of the title words for the Society you are interested in finding. The system should put you on the proper spot in the listing.

**What about Students???**
Student members are encouraged to seek offices in their local university Student Branches, and gain experience in those organizations.
Students may not hold office in a Section geo-unit.
(*We want you to concentrate on getting that all-important first university degree before becoming too involved with Section level activities*.)

## Candidate & Officer Training

A series of Officer Training events was broadcast early in September. Since these were only minimally attended, the Nominations & Appointments Committee will be recommending that the Executive Committee consider alternative training methods for those who have been elected before they need to 'take office'. Watch for notices in future issues of Wavelengths.

If an officer is unable to attend a training session, the option remains to look for the voice over power point training materials on the SEM webpage at:
**http://sites.ieee.org/sem/about-sem/training/**

**Voice over Power Point Training:**
Many on-line virtual training modules are available through the SEM Website Training page at:
**http://sites.ieee.org/sem/about-sem/training/**

More in depth training may be found on the IEEE Center for Leadership Excellence site located at:
**https://ieee-elearning.org/CLE/**

## 2020 Appointments

**Non-Elected Geo-Unit Positions:**
While we elect our basic officers (Chair, Vice-Chair, Secretary, Treasurer), many geo-units utilize the talents and energy of 'appointed' volunteers as 'Directors'.
For these positions, contact the Chair of the particular geo-unit, and discuss the opportunities. Alternatively, look at the Volunteer Portal at:
**https://r4.ieee.org/sem/about-sem/volunteer-portal/.**

The positions listing on the Volunteer Portal is intended to provide a quick link to position descriptions. At the present only a few links have been established. We need volunteers to help build that listing and its link page into a fully functioning page.

If interested in helping, please contact
K.williams@ieee.org

Note: All standing committee positions are 'appointed' and not 'elected'. Contact the current Committee Chair to discuss volunteer options. Also see the SEM Organization Roster posted in the SEM Website for details of each committee.
**https://r4.ieee.org/sem/about-sem/**

Look for the button "Organization Roster" and download the PDF file.

K.williams@ieee.org
Chair: N&A Committee.

**********

**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.

## IEEE MGA Section Award

Dear Southeastern Michigan Section,

I am pleased to recognize the Southeastern Michigan Section for meeting its retention goals for the 2020 membership year. Congratulations!

Membership development goals were developed based on your Sections three-year performance. You are to be commended for continuing to grow IEEE membership in the Southeastern Michigan Section, especially during this very difficult time in our world and our lives.

In recognition of this achievement, I have attached an image that you can place in your e-mail signature and on your Section website or newsletters, which signifies your outstanding achievement for the 2020 membership year.

Please feel free to share this with other leaders in your Section to recognize the good work you are doing, and to let your members know you are working hard to provide them the best member experience possible.

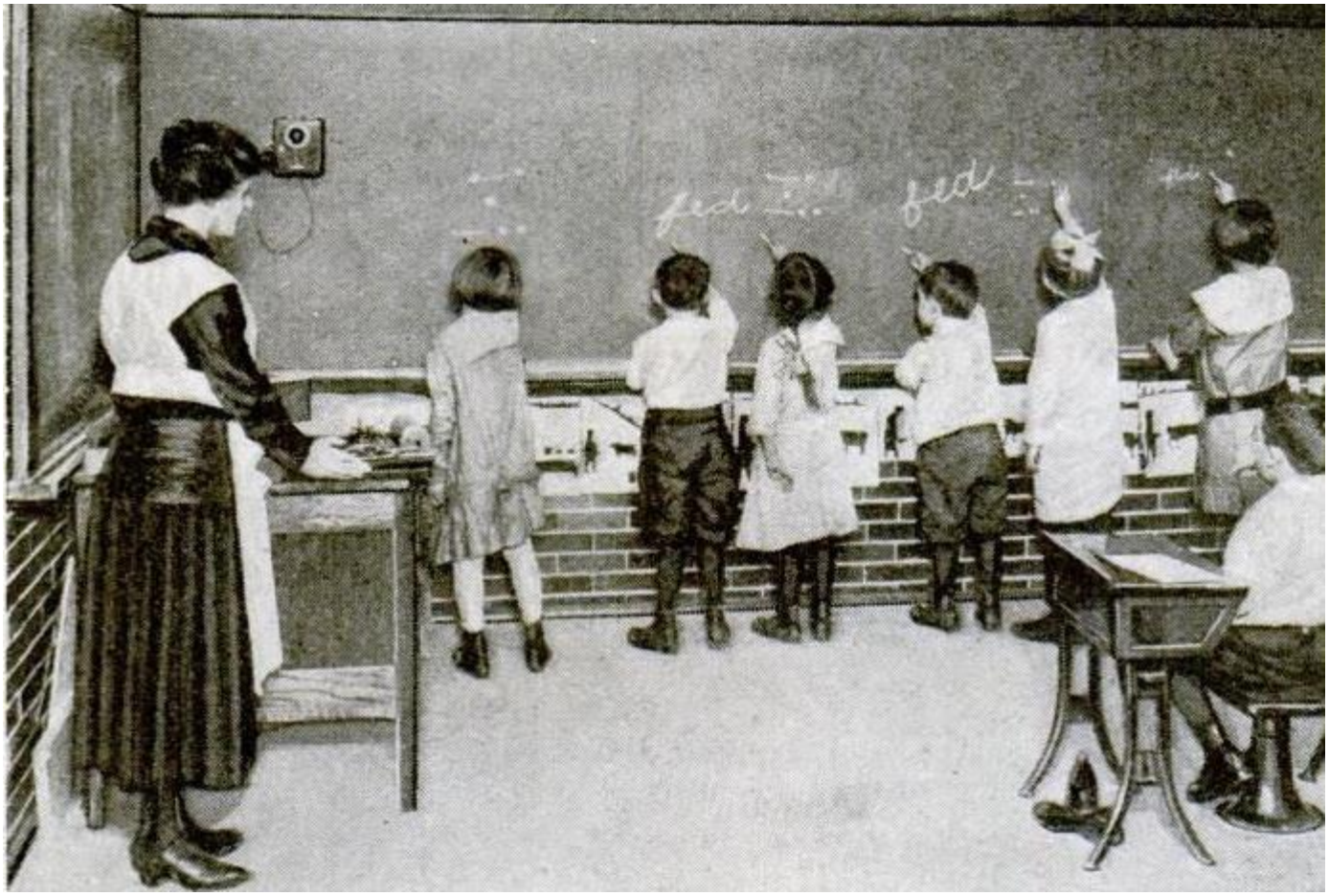
Finally, we have a tough challenge ahead in 2021. I request your continued support and good efforts toward ensuring membership growth continues.

Kind regards and warmest wishes,

Andrejs Romanovs
Chair, IEEE Membership Recruitment and Recovery Committee, 2019-2020

## Teaching Morse Code

### Teaching Morse Code to Second Graders: 1917!



*If you look carefully at the dots and dashes written by the student on the left, you see that Miss Biddle was teaching American Morse, since .-. is written down for "F". This stands to reason, since she is using a landline telegraph sounder, and American Morse would have been in use by the railroads and telegraph companies. If any of these students were inspired to get into wireless telegraph, then they would have had to learn International Morse, which varies slightly. But their minds appear resilient, and I'm sure they would have had little trouble making the transition.*

The February 1917 issue of Popular Mechanics showed how a progressive second grade teacher used modern methods to teach her children spelling: She taught them by means of Morse Code.

As the article noted, it was a well-known truth that children learned more quickly through play than through dull hours of tedious instruction. The teacher, Miss Florence Biddle of Columbus, Ohio, discovered that she could make the children anxiously look forward to their daily spelling lesson by use of Morse code.

Miss Biddle would send words from a telegraph key at her desk. The children would then write down the dots and dashes and then translate them. Here, we can see that these children have correctly copied her send the word "fed." The girl to the left has the dots and dashes written down, and the others have completed the process of translating. A variation in the lesson was having children send the code for words she dictated.

Miss Biddle's method was explained in more detail in the April 1917 issue of Primary Education magazine.

According to that article, Miss Biddle's method had spread from her own Spring Street School to other schools in the city. She originally got the idea four years earlier, and used a ruler to tap out the words. After Assistant Superintendent R.G. Kinkead saw the idea, he provided her with the telegraph instrument, and the idea spread.

That article noted that the children like to learn the code, because it "puts them in touch with the railroad and telegraph, two things which fascinate all children." Here, from that article, we see one of your young students sending a message in response to her dictation.

## Morse Code During COVID

### TEACHING HOME BOUND KIDS MORSE CODE

Due to COVID-19 concerns, **Long Island CW Club** has stepped in, offering free on-line ZOOM instruction in Morse code.

- 6 1-hour long classes weekly
- Grade K-12
- 75 students, USA and Europe
- Some are making CW QSOs (on air conversations) already!
- 11 students got their Technician licenses and 3 students have already upgraded to General and we are very proud of all of them.

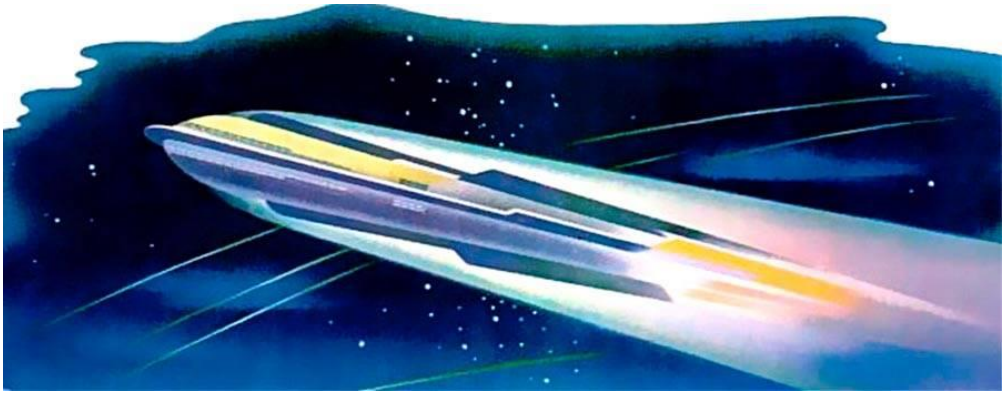
If you have an interested child for this program, please email us at: **info@longislandcwclub.org**

## SYFY Conference

# DOES SCIENCE FICTION INFLUENCE TECHNICAL & SOCIAL CHANGE?

(Free virtual conference)

**October 10, 2020 Saturday Noon – 17:30 EDT - USA**



The question we wish to pose is: "When looking at those times when science fiction has seemed to predict a change in technology or social behavior, are we witnessing a real effect, or only a coincidental alignment of circumstances?" Can 'Art,' in general, influence technology and society?

"**Anything one man can imagine; other men can make real**."
*— Jules Verne, Around the World in Eighty Days.*

Science Fiction fans point to examples of the similarity between Star Trek's 'communicators' that seemed revolutionary when the programs first aired and the ever present 'Cell Phones' of our present day as evidence of the influence of science fiction on our civilization's technical directions. They point to how Dr. Martin Luther King, Jr dissuaded Nichelle Nichols (Lieutenant Uhura) from leaving the Star Trek cast because of the positive influence her presence was having on the culture of American audiences. (See her comments on: **https://www.youtube.com/watch?v=pSq_Uluxba8**).

Did the Sinclair Lewis novel "It Can't Happen Here" prevent the rise of a demagogue in the USA in the 1930's? Are we seeing George Orwell's 1984 vision of "Big Brother is watching" in the NSA surveillance of our phone calls and email messages and in the rise of universal facial recognition software in China?
We have asked our keynote speaker and our panelists to consider these questions and analyze them from several points of view:

- Is the linkage real, or just a fanciful illusion?
- If the effect is real, are the authors aware of any influence they may have?
- Given the views of many possible futures, can Science Fiction help us change our future for the better?

And, what about 'Magic'? Arthur C. Clarke, the brilliant futurist and writer said: "Any sufficiently advanced technology is indistinguishable from magic." What can we do with those phenomena that have been observed but not yet scientifically understood? Do we dismiss them, seek to bring them into the scientific discourse, or embrace the mysticism?

Come join us: engage with our speakers and join in the panel discussions and networking sessions embedded in the schedule. We look forward to greeting you all and engaging in both serious discussions and flights of fancy.

**Register Here:**

**WebEx connection information will be emailed to registered participants 3 days before the beginning of the conference.**

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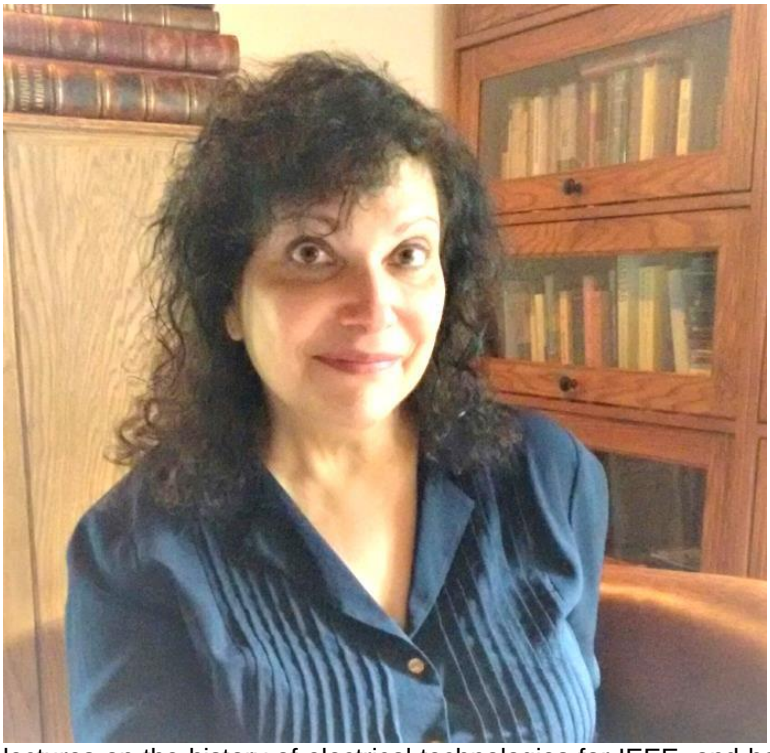
SYFY Conference

# Keynote Speaker: Dr. Lisa Nocks



**Lisa Nocks, Ph.D**. is a historian of science and technology at the IEEE History Center. Her research focus is the history of robotics and AI.

She is the author of ***The Robot: The Life Story of a Technology*** (Johns Hopkins University Press, 2008), which was named a top academic title by the American Library Association's *Choice* magazine. She is particularly interested in the reciprocal influences between technology and popular culture. Among her published articles are "That Does Not Compute: The Brittleness Bottleneck and the Problem of Semantics in Science Fiction" in *Science Fiction and Computing: Interlinked Domains* (McFarland); and "Robots" in *The Oxford Encyclopedia of the History of American Science, Medicine, and Technology*, ed. by Hugh Slotten (OUP).

Dr. Nocks has lectured on a variety of topics at conferences around the world, and taught the histories of science, technology, and communication on the university level for many years before joining the IEEE History Center in 2017. Currently, she curates exhibits on the history of technology, writes articles and gives lectures on the history of electrical technologies for IEEE, and has served as an Industry Professor in the College of Arts & Letters at Stevens Institute, in addition to working with IEEE members to record and preserve their contributions to the history of technology. She helped to spearhead the History Center's new Global Museum program, and has also served on the IEEE Tech Ethics Committee to support the IEEE mission of technology in service to humanity.

**Keynote Lecture Abstract**
**"Soldiers, Servants, and Whores, Inc. – The Science Fiction Android as Gedanken experiment"**

By the early 21st century, the initiative to develop humanoid robots that had begun in Japan in the 1960s had spread to research labs around the world. Researchers repeated to the press the mantra that after all, why bother to convert human spaces like homes and care institutions to accommodate robots, when it might be possible to develop intelligent robots that could operate in a human environment?

The social challenges of integrating humanoid robots or *androids* into human society had been described in science fiction for many decades, and a number of robotics researchers have acknowledged the influence of science fiction on their career paths. These stories not only described the technical innovations that would make this possible, but operated as a kind of thought experiment, considering the potential social, economic, and ethical challenges inherent in developing machines that could compete both intellectually and physically for the same environmental niche as humans. This keynote focuses on how such issues played out in android stories written between the 1920s and the late twentieth century, when the first real humanoid prototypes were exhibited to the public.

**Register Here:**
**ZOOM connection information will be emailed to registered participants 3 days before the beginning of the conference.**

SYFY Conference

## Agenda / Schedule:

11:30 Sign-in - Networking

**Noon Keynote - Dr. Lisa Nocks: "The Science Fiction Android as Gedanken experiment"**
13:00 1st Panel / "**Will SF help lead us to an integrated C + FE future?**"

14:00 2nd Panel / "**In what ways may SF and STEM reduce inequality and promote human wellbeing?**"

15:00 3rd Panel / "**Does Science Fiction Influence Technical and Social Change?**

16:00 Roundtable Open Discussion.

**17:00** Wrap up & conclusion of conference.
*(We look forward to seeing you all here next year to expand the discussion.)*

**Panel Moderator**

**Karen Burnham** is vocationally an engineer and 'avocationally' a science fiction reviewer. She writes for venues such as *Locus Magazine*, *Strange Horizons*, and *Cascadia Subduction Zone*. She was nominated for the British Science Fiction Award for Non-Fiction in 2012 and 2014. She works as an electromagnetic scientist, engineer, and modeler in Colorado where she lives with her husband and two sons.

Karen has participated in various science fiction conventions and conferences in different capacities. She served as the Vice President of the International Association for the Fantastic in the Arts, which holds an academic and writers conference each Spring in Florida. She was the head of the Academic track of Programming at the 72nd World Science Fiction Convention in San Antonio, TX in 2013. She has also produced and hosted three podcasts: the Locus Roundtable, SF Crossing the Gulf with Karen Lord for SFSignal.com, and Small Blue Planet with Cheryl Morgan, all appearing at Locus Magazine's website. In January 2017 she was the Science Guest of Honor at ConFusion in Michigan.

Email: karen.burnham@gmail.com

Sponsored by: IEEE Southeastern Michigan EMC Chapter (8) / IEEE Southeastern Michigan Section / Engineering Society of Detroit

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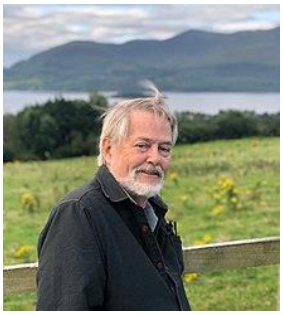
**Panel Members:**

**A.T. Greenblatt** is a mechanical engineer by day and a writer by night. She lives in Philadelphia where she's known to frequently subject her friends to various cooking and home brewing experiments. She is a graduate of Viable Paradise XVI and Clarion West 2017. Her work has won a Nebula Award, has been in multiple Year's Best anthologies, and has appeared in *Uncanny, Beneath Ceaseless Skies,* and *Fireside,* as well as other fine publications. You can find her online at http://atgreenblatt.com and on Twitter at @AtGreenblatt.

**Tobias Buckell** was born in 1979 in Grenada in the Caribbean and raised on a boat. He attended Clarion in 1999. Not long after that he made his first sale, "Fish Merchant", to Scott Edelman at Science Fiction Age. The story appeared in the March, 2000 issue. About the time of the sale, his story "In Orbite Medievali" won a quarterly contest for the Writers of the Future. Since then his stories have appeared in a variety of places, including the magazines Analog and Nature, and the anthologies New Voices in Science Fiction, Men Writing Science Fiction As Women, and So Long Been Dreaming.



**Dr. Gary K. Wolfe** is a US academic and author. Associated with Roosevelt University in Chicago until his recent retirement, he has also published a monthly review column for Locus magazine since 1992. Two of his notable books are "The Known and the Unknown: The Iconography of Science Fiction" (1979) and "Evaporating Genres: Essays on Fantastic Literature" (2010). He has edited collections of science fiction literature for the Library of America and serves as the series editor for the University of Illinois Press' "Modern Masters of Science Fiction" line. He received the Pilgrim Award in 1987 and the IAFA Award for distinguished scholarship in 1998.

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SYFY Conference

**Michael J. DeLuca**'s roots are mycorrhizal with sugar maple and Eastern white pine. He's the publisher of *Reckoning*, an annual journal of creative writing on environmental justice. His fiction has appeared most recently in *Beneath Ceaseless Skies, Three-Lobed Burning Eye, Strangelet* and *Middle Planet.* On twitter/web you can find him *at* . @michaeljdeluca; mossyskull.com.


**Geoffrey Alan Landis** (born May 28, 1955) is an American aerospace engineer and author, working for the National Aeronautics and Space Administration (NASA) on planetary exploration, interstellar propulsion, solar power and photovoltaics. He holds nine patents, primarily in the field of improvements to solar cells and photovoltaic devices and has given presentations and commentary on the possibilities for interstellar travel and construction of bases on the Moon, Mars, and Venus. Supported by his scientific background Landis also writes hard science fiction. For these writings he has won a Nebula Award, two Hugo Awards, and a Locus Award, as well as two Rhysling Awards for his poetry. He contributes science articles to various academic publications.

Dr. Mary Turzillo: After a career as a professor of English at Kent State University Dr Turzillo is now a full-time writer. In 2000, her story "Mars Is No Place for Children" won SFWA's Nebula award for best novelette. Her novel "An Old-Fashioned Martian Girl" was serialized in Analog in July-Nov 2004. These two works have been selected as recreational reading on the International Space Station.

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## SusTech 2021 CFP

# IEEE SusTech 2021

http://ieee.org/sustech

## Call for Papers

Orange County, CA.
April 22-24, 2021

### This Year's Theme: How Emerging Technologies Are Driving Sustainability

The 8th **IEEE Technologies for Sustainability Conference** (SusTech 2021) is designed to explore the development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It brings together scientists, engineers, technologists and scholars from multiple disciplines to hold a dialogue on environmental issues and collaborate on ideas to develop and utilize innovative tools and intelligent systems to address them. Attendees will learn about the emerging technologies, latest tools, and proactive solutions to take their sustainability programs to the next level.

- **SusTech 2021** will be held online and it will feature technical papers & presentations, posters and workshops.
- Prominent experts will be giving keynotes, plenary presentations and invited talks.
- Best Posters and Papers in the conference will be eligible for an award.
- Full papers will be published in the SusTech 2021 Proceedings.
- Conference content that meet IEEE quality review standards will be submitted for inclusion into IEEE Xplore as well as other Abstracting & Indexing (A&I) databases.

Papers are solicited for presentations from industry, government, and academia (including students) covering relevant research, technologies, methodologies, tools and case studies. Topics with policy implications are also welcome.

**Selected Technologies that contribute to sustainability in all applications affecting human life:**

- IoT: Internet of Things
- Renewable / Alternate Energy
- Intelligent Transportation Systems
- Sustainable Electronics
- Water Resources Management
- Societal Implications / Quality of Life / Public Policy
- Smart Cities
- Energy Efficiency

Other topics of interest include: Smart Grid, eWaste, Ocean Waste & Pollution, Ecological Sustainability & Conservation, Agriculture & Food Technology, Sustainable Management. Visit http://ieee.org/sustech for more information on topics of interest and related details.

**Instructions to Authors:** Submit in **PDF** form, a full submission of the paper for oral presentation via the SusTech website. For information for authors, please visit the conference website at http://ieee.org/sustech/. Select **Authors** *tab* and follow the instructions.

**There will be a separate Student Poster Competition.**

| | | |
|---|---|---|
| **Important Dates** | **November 1, 2020** | Submission deadline for paper |
| | **December 15, 2020** | Notification of acceptance |
| | **January 30, 2021** | Final manuscript submission deadline |

**For more information or questions, please contact: Sustech@ieee.org**

**Sponsors for SusTech 2021 include the IEEE Oregon, Phoenix, San Fernando Valley, Inland Empire, Orange County, Metro Los Angeles, and Coastal Los Angeles Sections, IEEE Region 6, IEEE-USA; and co-sponsored by IEEE PES, SSIT and TEMS societies.**

**PLEASE FORWARD THIS NOTICE TO YOUR COLLEAGUES**

## SusTech 2021 Posters

# IEEE SUSTECH 2021

**8th Annual Conference / Orange County, CA / April 20-24, 2021**
**This Year's Theme: How Emerging Technologies Are Driving Sustainability**

# Student Poster Contest - Call for Abstracts

| | | |
|---|---|---|
| **Key Dates** | Dec 15, 2020 | Submission deadline for poster abstract |
| | Jan 31, 2021 | Notification of Acceptance |
| | Apr 22, 2021 | Final ONLINE Poster Display During Conference |

>>> Accepted posters must register for the contest and pay a submission fee <<<.

For more information, abstract upload, and registration, please visit https://ieee-sustech.org/

**Topics: Technologies that contribute to sustainability in all applications affecting human life.**

| | | |
|---|---|---|
| Internet of Things – IOT | Agriculture & Food Technology | Smart Grid |
| Renewable / Alternate Energy | Water Resources Management | Energy Efficiency |
| Societal Implications | Intelligent Transportation Systems | Sustainable Electronics |
| Quality of Life / Public Policy | Ocean Waste & Pollution | eWaste |
| Smart Cities | Ecological Sustainability & Conservation | Air Pollution |

## Prizes:

Prizes will be awarded for first, second and third places as determined by the judges. First place $1000; second $500; third(x2) $250. Information on the winners will be posted on the IEEE SusTech and IEEE Region 6 websites.

## How to Submit?

To participate in the contest students should write a 2-page (500-700-word) description (extended abstract) of the poster, along with authors names, respective university and contact details; and submit it in PDF at **https://ieee-sustech.org/student-poster-contest/** by the deadline. Contestants will need to prepare a poster of 48 x 36 inches in PDF for **online presentation**.

**Poster Contest Chair: Dr. Sean Monemi** seanmonemi@ieee.org

IEEE Region 6 — Coastal Los Angeles, Foothill, Metro LA, Orange County, Oregon, Phoenix, and San Fernando Valley Sections

IEEE-USA SSIT PES Power & Energy Society TEMS

## 7-Billion-Year-Old Signal

*Formatted and curated by Sharan Kalwani*

*An artist's impression of the last moments before the merger of two black holes*
**[ Image Credit: LIGO-VIRGO COLLABORATION ]**

Imagine the energy of eight Suns released in an instant.

This is the gravitational "shockwave" that spread out from the biggest merger yet observed between two black holes. The signal from this event travelled for some seven billion years to reach Earth but was still sufficiently strong to rattle laser detectors in the US and Italy in May last year. Researchers say the colliding black holes produced a single entity with a mass 142 times that of our Sun.

This is noteworthy. Science has long traced the presence of black holes on the sky that are quite a bit smaller or even very much larger. But this new observation inaugurates a novel class of so-called intermediate-sized black holes in the range of 100-1,000 Sun (or solar) masses. The analysis is the latest to come out of the international LIGO-VIRGO collaboration, which operates three super-sensitive gravitational wave-detection systems in America and Europe.

**So What is a black hole?**

- A black hole is a region of space where matter has collapsed in on itself
- The gravitational pull is so strong that nothing, not even light, can escape
- Black holes will emerge from the explosive demise of certain large stars
- But some are truly gargantuan and are billions of times the mass of our Sun
- How these monsters - found at galaxy centers - formed is unknown
- Black holes are detected from the way they influence their surroundings
- They produce observable gravitational waves as they spiral in to each other

The collaboration's laser interferometer instruments "listen" for the vibrations in space-time that are generated by truly cataclysmic cosmic events - and on 21 May, 2019, they were all triggered by a sharp signal lasting just one-tenth of a second. Computer algorithms determined the source to be the end-stage moments of two in-spiraling black holes - one with a mass 66 times that of our Sun, and the other with 85 solar masses.

The distance to the merger was calculated to be the equivalent of 150 billion trillion km.

"It's astounding, really," said Prof Nelson Christensen from the Côte d'Azur Observatory in France. "This signal propagated for seven billion years. So this event happened 'just before halftime' for the Universe, and now it's mechanically moved our detectors here on Earth," he explained to BBC News.

*The European VIRGO laser lab is based in Italy's province of Pisa*
**[ Image Credit: LIGO-VIRGO COLLABORATION ]**

**Gravitational waves - Ripples in space-time**

- Gravitational waves are a prediction of the General Theory of Relativity
- It took decades to develop the technology to directly detect them
- They are ripples in the fabric of space-time generated by violent events
- Accelerating masses will produce waves that propagate at the speed of light
- Detectable sources include merging black holes and neutron stars
- LIGO-VIRGO fire lasers into long, L-shaped tunnels; the waves disturb the light
- Detecting the waves opens up the Universe to completely new investigations

The involvement of an 85-solar-mass object in the collision has made collaboration scientists sit up because their understanding of how black holes' form from the death of a star can't really account for something on this scale.

Stars, when they exhaust their nuclear fuel, will experience an explosive core collapse to produce a black hole - if they're sufficiently big. But the physics that's assumed to operate inside stars suggests the production of black holes in the particular mass range between 65 and 120 solar masses is impossible. Dying stars that might yield such entities actually tear themselves apart and leave nothing behind.

If the science is correct on this point, then the most likely explanation for the existence of an 85-solar-mass object is that it was itself the result of an even earlier black hole union.

And that, believes Prof Martin Hendry, from Glasgow University, UK, has implications for how the Universe evolved.

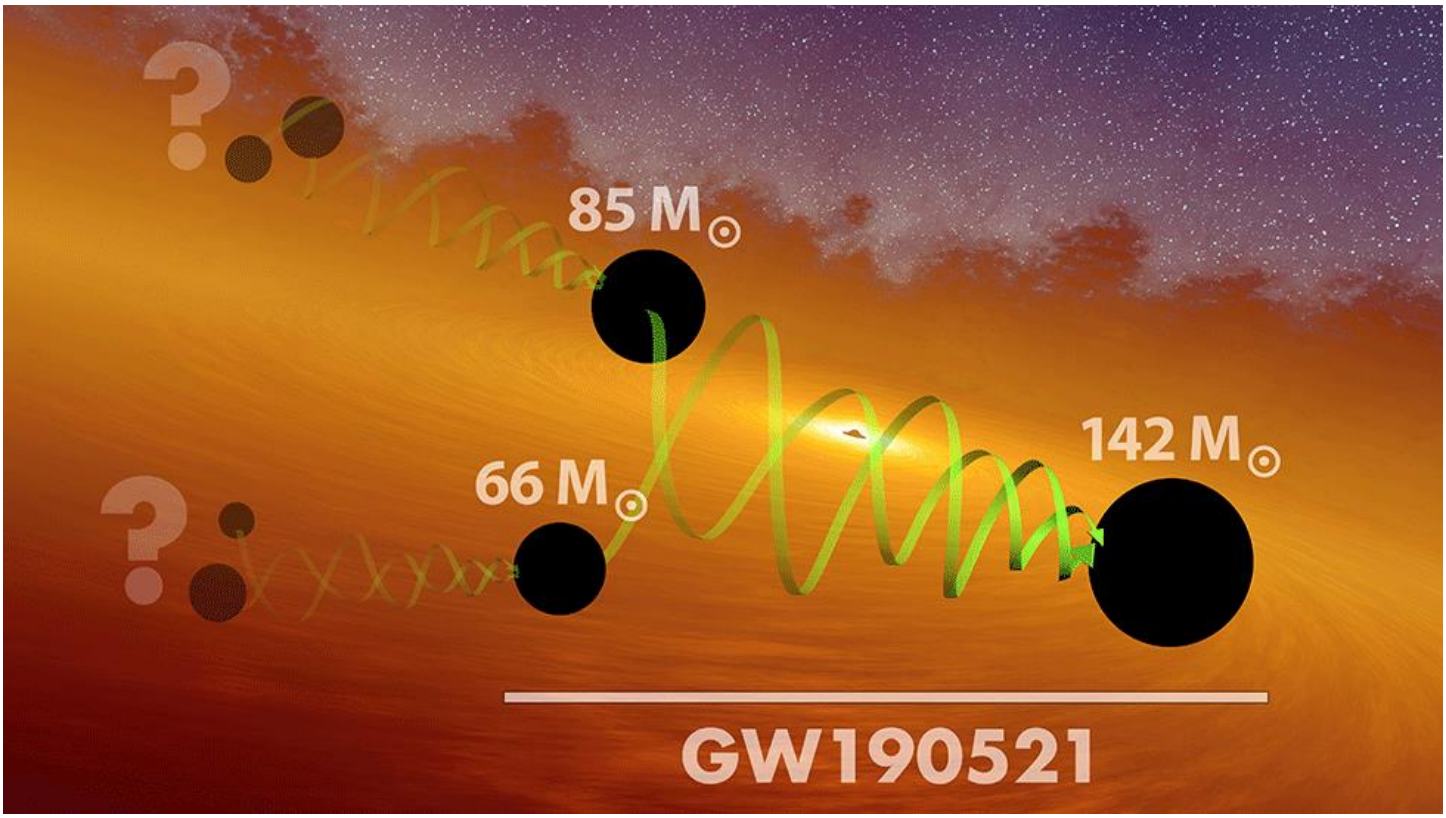
"We're talking here about a hierarchy of mergers, a possible pathway to make bigger and bigger black holes," he said. "So, who knows? This 142-solar-mass black hole may have gone on to have merged with other very massive black holes - as part of a build-up process that goes all the way to those supermassive black holes we think are at the heart of galaxies." The LIGO-VIRGO collaboration is reporting the 21 May, 2019, event (catalogued as GW190521) in two scholarly papers:

- One is in the journal Physical Review Letters and describes the discovery.
- The second can be found in The Astrophysical Journal Letters, and discusses the signal's physical properties and scientific implications.

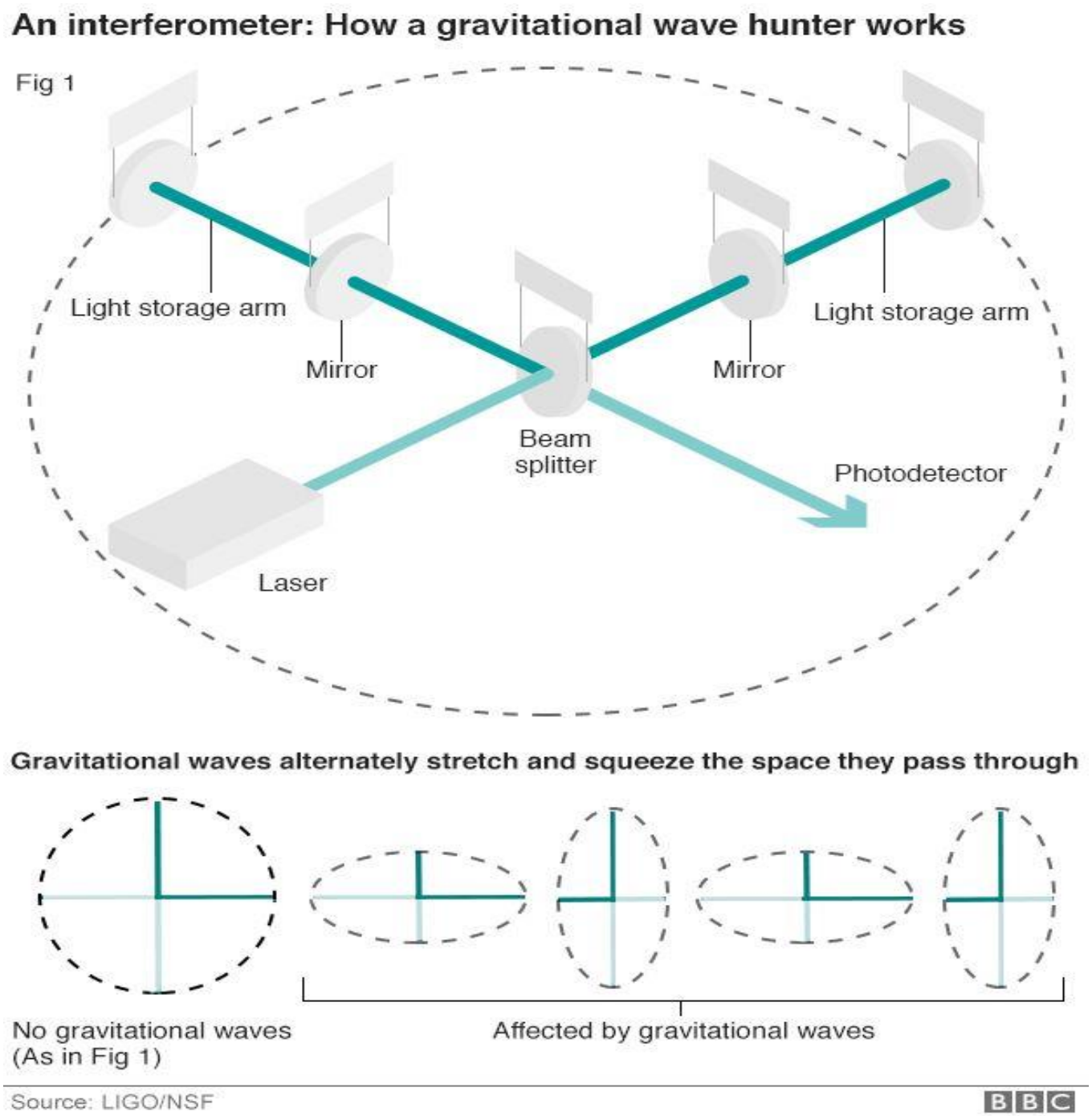
GW190521 is one of over 50 gravitational wave triggers presently being investigated at the laser laboratories.

The pace of research has increased rapidly since the collaboration made its first, Nobel-Prize-winning detection of gravitational waves in 2015.

"We are increasing the sensitivity of the detectors and, yes, we could end up making more than one detection a day. We will have a rain of black holes! But this is beautiful because we will learn so much more about them," Prof Alessandra Buonanno, director at the Max Planck Institute for Gravitational Physics in Potsdam, told BBC News.




*The discovery suggests there is a hierarchy of mergers that lead to ever bigger black holes*
**[ Image Credit: LIGO-VIRGO COLLABORATION ]**




- A laser is fed into the machine and its beam is split along two paths
- The separate paths bounce back and forth between damped mirrors
- Eventually, the two light parts are recombined and sent to a detector
- Gravitational waves passing through the lab should disturb the set-up
- Theory holds they should very subtly stretch and squeeze its space
- This ought to show itself as a change in the lengths of the light arms

Reprinted by kind permission of the BBC. Original article at: https://www.bbc.com/news/science-environment-53993937

## IEEE Day 2020

IEEE Day 2020 Events Will Be Virtual.
By Denise Maestri and Sakib Ahmed

*Sakib Ahmed is the IEEE Day communications lead from the IEEE Bangladesh Section in Region10. Denise Maestri is the IEEE Day staff coordinator. She's the member and volunteer-engagement manager for IEEE Member and Geographic Activities. [Reprinted from IEEE Spectrum]*

For the first time in the 11-year history of IEEE Day, the events—scheduled for 6 October this year—are to be held virtually. Due to the COVID-19 global health crisis, the IEEE Day team has made structural changes. IEEE Day commemorates the anniversary of the meeting in Philadelphia in 1884 when members of the American Institute of Electrical Engineers, one of IEEE's two predecessor societies, gathered for the first time to share technical ideas.

The event's organizing team is excited to be able to engage members from around the world with the virtual events. Time, location, and travel are no longer obstacles to attending an event. What's more, to accommodate those sections that prefer to hold weekend events, celebrations can be held throughout the first two weeks of October.

**IEEE Day 2020 Organizers suggest activities for the 2020/6th October celebration**
Not sure the type of virtual event to plan? The team is working on a list of ideas. Here are a few to consider:

- **Webinars:** These could include IEEE-related technical talks, many of which are available on demand. Consider 3inviting experts from one of the IEEE societies' Distinguished Lecturer programs, or subject-matter experts from industry. Ask members involved with humanitarian activities to talk about their project.
- **Interactive events:** Consider online social gatherings, networking sessions, and virtual gaming.
- **Virtual gatherings:** Use WebEx, IEEE Collabratec, Microsoft Teams, Zoom, or Facebook Live to watch technology videos together. Conduct virtual tours of plants and factories. Read interesting articles or discuss a book.
- **Videos:** IEEE has several videos on IEEE.tv about its programs. They include a tour of the IEEE History Center's most treasured artifacts, an overview of some humanitarian projects members are involved with, and tips on mastering STEM topics.

PLANNING TOOLS

To assist planners, organizers have created a helpful IEEE Day-in-a-Box event kit. Located under the Resources tab on the IEEE Day website, the kit walks you through the planning process.

In the Toolkit section of the website are posters, banners, and other promotional materials that can be downloaded. For those who want to distribute T-shirts to their attendees, there are downloadable templates with this year's design.

It's not too early to start planning. Check the IEEE Day website for updates, and follow us on social media.

Our local IEEE Day 2020 coordinator – Sharan Kalwani, can be reached for help in this regard. You can reach him via email.

***A section wide online quiz contest (with prizes) will be held on October 6th. To participate: go to https://events.vtools.ieee.org/m/235171***

## ESW 2020

# 18th Annual Embedded Systems Workshop

**October 17 & 24, 2020, 8:30 a.m. to 12:30 p.m. (Saturdays)**
**Virtual/Online Live Sessions, EST/EDT Time Zone**

IEEE Computer Society in collaboration with the IEEE Education Society (South East Michigan Chapters) is offering TWO half-day workshops on Embedded Systems on Saturday, October 17th & 24th, 2020. This workshop is open to all industry professionals, both experienced and newly minted engineers, as well as students. This is the 18th year that the event is being held.

The aim is to disseminate knowledge, directly benefitting the IEEE members, at the same time **improve the technology skills pool, indirectly boosting the Michigan economy**. Speakers and experts from the embedded systems industry will be making presentations, and will also be available for discussions and networking throughout the day. In addition to the technical presentations, there will be industry information display and professional recruitment sessions. Use this opportunity for virtual networking with other engineers, industry experts and embedded enthusiasts.

Please confirm your participation by registering on the IEEE events web site
**(Deadline is 15th October 5 pm!)**
https://bit.ly/embed2020

**Venue: Virtual using Video Conferencing**

**Sponsors in the past: Beningo Embedded Group, Infineon, Zenuity, Intrepid CS and many others…**

Attendees: There is a small one-time cost of $5 to attend, this will help cover video recording, storage, presentations, a dedicated website and other logistics. Several random raffles and virtual door prizes representing the embedded systems industry will also take place. All are welcome. Do post this flyer in your workplaces, share/inform your peers & colleagues about this event. It is a great way to learn not only what is going on, but network (virtually) with other professionals as well.

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***Brought to you by the IEEE SE Michigan Computer Society & IEEE SE Michigan Education Society chapters. Do seriously consider joining the IEEE, boost your technical skills, broaden your awareness of compute-based engineering in the region, support numerous similar initiatives & learn other benefits this brings.***

***Open to all,*** **Pre-registration** ***is necessary prior to attending!*** **The deadline to register is 15th October 5 PM**

For Technical questions, contact the Program Committee **at:** esw2020@ieee-sem.org

A CEU/PDH Certificate will be made available for participants who Pre-register and attend both days!

**ESW 2020 Program & Organizing Committee**: Subra Ganesan (Chair), Sharan Kalwani (Vice Chair), Ashok Prajapati, Ramesh S, Carla Gerst, Nilesh Dudhaia and Ben Sweet

## ISC 2020

### Annual Meeting



### Conference Details

**Conference Date:** October 11th - 15th, 2020

**Conference Location:** 100% Virtual (Initial location: Detroit, Michigan USA)

NEW! Preliminary Conference Schedule

### UPDATE - 2020IAS AM WILL BE 100% VIRTUAL

Dear Colleagues,

From its onset, the IEEE-IAS Annual Meeting planning committee pays close attention to the development of the Covid-19 and its impact on everyday life. Our primary concern is the health, safety, and comfort of our conference attendees and colleagues.

In view of the current situation (Detroit still only allows max 10 persons for indoor gathering), we have decided that 2020IAS AM will be fully virtual.

For the registration of virtual conference, you will have the following privileges:

1. View and download the conference proceedings.
2. View and download the voice over ppt file video presentations.
3. Attend plenary session.
4. Visit vendors' EXPO.

The most up-to-date information on IAS AM 2020, will continue to be announced on our website.

## ECCE 2020


Announcements | Contact
ECCE 2020
IEEE ENERGY CONVERSION CONGRESS & EXPO DETROIT, MICHIGAN OCTOBER 11-15
HOME REGISTRATION AUTHORS/REVIEWERS STUDENTS PROGRAM SPONSORSHIP ABOUT
Our conference has gone virtual
Due to our concern over Covid-19, we have moved from the conference hall to online.
Schedule- at a Glance
ENERGY CONVERSION CONGRESS AND EXPOSITION
OCTOBER 11 Sunday through OCTOBER 15 Thursday
2020 IEEE-ECCE Virtual Conference
October 11-15, 2020

## LTU Student Event 1


# MULTIMETER EVENT
# LTU IEEE

### Event Description

Come Join our Zoom call to listen to a session on how to use multimeters! Hosted by current LTU Electrical Engineering students. Get to know our IEEE student branch and its members, and become involved. Learn electronics knowledge you need in class and outside of class!! Learn skills sought for in internships!

LTU
POSSIBLE IS EVERYTHING.

**Wednesday October 21st**

**Noon**

**Zoom Link**

**https://ltu.zoom.us/j/97654377334?pwd=V2Z5a1FRSFhTL1FVcDBlc0VxREQOUT09**

**Speaker: Daniel Piotrowski**

**LTU IEEE**

LTU Student Branch
ieee@ltu.edu

21000 W Ten Mile Rd.

## LTU Student Event 2

### The LTU Student Branch of IEEE
### Presents
### "Rise of Computing in Automotive DNA"

The growth of electronics within the automobile has been nothing short of phenomenal. In 2015 it accounted for 13% of the total value of the car and in 2018 it had jumped to 20%. A large portion of that has been purely due to the rise of computing component, such as ADAS, ECUs, etc. New technologies such as 3D laminated glass, haptic sensors, and augmented reality heads-up displays — which offer drivers alerts, safety aids, and warnings on invisible screens embedded in the windshield — have entered the vocabulary of traditional suppliers. Large navigation and entertainment display screens in the dashboard offer Web-based information and media as well as data arrays picked up from networked roads and other cars. The autonomous car will further up the ante, and soon.

This talk will focus on many of what is the "under the hood" computing portions, technologies and the accompanying massive software baggage that needs to go with it. It is time we got more familiar with the computing technologies and underlying foundations that go with it.

We will introduce many terms, concepts and issues to help folks in Automotive technologies get better prepared for the future (or is fusion a better word?) world of automotive & computer tech.

***Speaker:*** *Sharan Kalwani*

***Biography:*** *With over 30+ years' experience, in various aspects of the way hardware, software has evolved, you can expect a unique perspective on the whole evolution of computing, now making its presence felt in the automotive world. The speaker has presented at numerous conferences and is viewed as an active evangelist in his areas of expertise.*

**Logistics/Details**

- **Date:** Thursday, October 1st, 2020
- **Time:** 12 PM to 2 PM
- **Audience:** All Students, Faculty Members, IEEE Members, and Other Community Members and Professionals
- **Where:** Zoom

Meeting Link: https://ltu.zoom.us/j/91226718192?pwd=c2JlYXNGdGdYSWE2Vi9rWmdtdzJqdz09

Meeting ID: 912 2671 8192

Passcode: 362480

IEEE

Lawrence Tech

## 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://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 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.

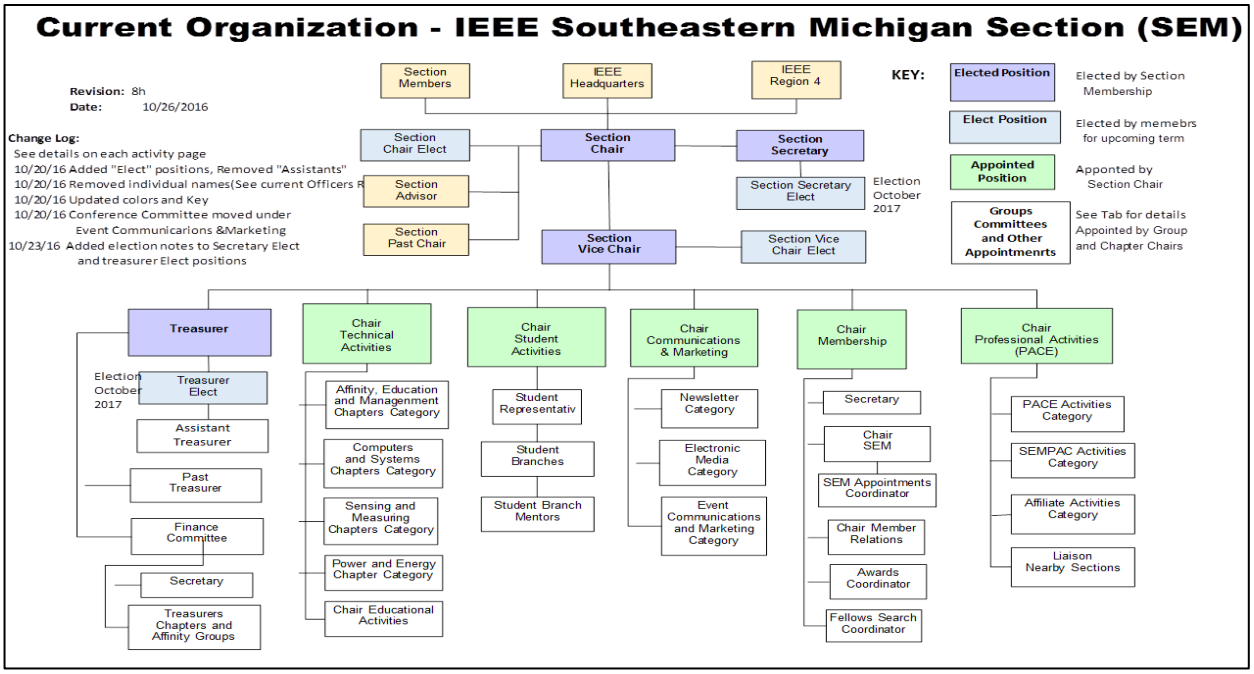
However, members of the section may have multiple technical interests and would like to have meeting information of other chapters. In order to communicate the meeting dates of all the chapters, affinity groups etc., to our members to facilitate their attendance, leaders of the groups are requested to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

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 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
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: University of Michigan-Dearborn and Lawrence Technological University. Delighted to welcome them board and the two articles they have contributed, telling us all about them and their plans for 2020.*

*Another new about to be a regular feature is Dan Romanchik's column on new things/ This time he writes to us about IEEE internet resources.*

*IEEE Day 2020 is coming up! Expect to hear more on that soon.*

*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* | |

IEEE Southeastern Michigan
Electrical and Electronic Engineers Creating Our Future

## 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

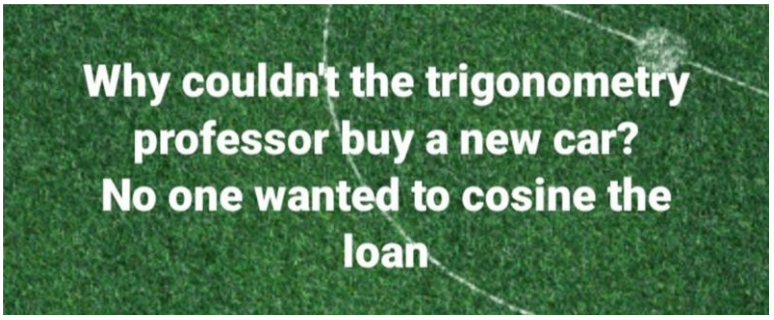
**Wavelengths Editor**
Sharan Kalwani

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**