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# THE SUNCOAST SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

Volume 65—No. 12 December 2019

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## Upcoming Meetings

Tuesday, December 3, 2019 5:30PM

EXCOM Meeting

at TECO Plaza Register online at

[http://time2meet.com/fwcs-excom/  
index.html](http://time2meet.com/fwcs-excom/index.html)

Open to all FWCS Members

## 63rd FLORIDA WEST COAST SECTION ANNIVERSARY CELEBRATION FLORIDA AQUARIUM

Make your plans now to attend the 63rd **FWCS ANNIVERSARY CELEBRATION** of the Florida West Coast Section of IEEE. On December 7th, meet with us at the Florida Aquarium in Tampa. We will start the day at 11:00 a.m. and will conclude at 2:00 p.m. Please meet us in the Vinik Channelside Room. Parking for this event is available in the Aquarium's parking lot (located on Washington Street) for a fee of \$6.00 per vehicle. **The first 50 cars for our event will get free parking!** Valet parking is available for an additional fee. If this lot is full, parking is available for a fee, in the Channelside Drive Parking Garage, across the street from the Aquarium.

**Happy  
Holidays!**

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Jim Anderson—[jim.anderson@ieee.org](mailto:jim.anderson@ieee.org) (813) 425-2467Engineering in Medicine & Biology (**EMBS**) Chapter: Sylvia Thomas - [sylvia@usf.edu](mailto:sylvia@usf.edu)Microwave Theory & Techniques/Antennas & Propagation/Electron Devices  
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THE SUNCOAST SIGNAL is published monthly by the Florida West Coast Section (FWCS) of the Institute of Electrical and Electronics Engineers, Inc. (IEEE). THE SUNCOAST SIGNAL is sent each month to members of the IEEE on Florida's West Coast. Annual subscription is included in the IEEE membership dues.

The opinions expressed, as well as the technical accuracy of authors, advertisers or speakers published in this newsletter are those of the individual authors, advertisers, and speakers. Therefore, no endorsement by the IEEE, its officers, or its members is made or implied.

All material for THE SUNCOAST SIGNAL is due in electronic form by 1st Sunday after the 1st Tuesday of the month preceding the issue month.

Address all correspondence to:

Donna Howard

3133 W Paris Street Tampa, FL 33614-5964

Home Phone: (813) 876-1748 E-mail: [amberdon3133@gmail.com](mailto:amberdon3133@gmail.com)

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Art Nordlinger, PE, Senior Member

**Seals**

No, not the aquatic mammal or the singer. I'm talking about the subject of Chapter 61G15-23 FAC, Seals. This chapter begins, "A professional engineer shall sign, date and seal:..." and goes on to discuss things like plans, specifications and documents that need this treatment, and those that don't. I think I can make a generalization that a PE either does this a lot as part of their practice, or rarely if ever. There isn't much middle ground.

This section of the Board's rules was recently updated to keep up with technology. Recognizing that plans are now often managed and transmitted in electronic form (versus just paper), secure methods needed to be devised to electrically or digitally sign and seal documents. And then the rules needed to be updated to allow for these methods. As is often the case, the devil is in the details of insuring that this can be accomplished securely, but without making it overly cumbersome. Not surprisingly, the Board has then had to address numerous questions regarding this process.

There are often several stakeholders when it comes to sealed plans, including municipal and county building departments, inspectors, contractors, and customers. All of the folks involved require training to insure that they understand the new seal rules and how to apply them. Education in this area can help to alleviate misunderstandings and unnecessary concern and complaints.

Getting back to my generalization, those who sign and seal documents regularly are like-as-not well aware of these changes as it directly affects their daily business. And for those whose seal is mostly unused, somewhere in the back of a drawer collecting dust, this change may be mostly irrelevant. However, the seal rules have evolved over time and it is important that all PEs are aware of certain details. For one, in 2006 the Board standardized the text on an embossing seal and retired some text. Currently, all seals have the words "PROFESSIONAL ENGINEER" and "LICENSE" on them. Before 2006, some seals used the words "REGISTERED ENGINEER" and "CERTIFICATE". These seals are no longer valid for use.

Those who rarely use their seals (I'm in that group) may sometimes have occasion to seal a recommendation for a new engineer applying for licensure. If you have an old seal and use it for this, unfortunately, the Board will reject the recommendation since it is sealed with an invalid seal. If your seal was made before 2006 and you aren't sure what text is on it, take this opportunity to check it and get it updated if necessary. It could save you, and an applicant, some future heartburn.

Whether you are a PE looking to attain required CEHs, or an engineer looking to learn something new or keep current with the latest trends in the profession, IEEE has seminars that will meet your needs.



***Arc Flash - Updates and Training on NFPA 70E-2018  
Electrical Safety in the Workplace.***

**Date:** Friday, January 24, 2020

**Time:** Registration & a Light Breakfast: 8:00AM-8:30AM (Space limited to the first 50 registrants!!!)

**Seminar:** 8:30AM – 3:00PM

**Speaker:** John Leedy, P.E., Owner, Engineered Electric Services, LLC

**Location:** FRCC 3000 Bayport Drive., Suite 600, Tampa, FL 33607

Parking: Use parking lot for Hyatt (North side only).

**Cost:** \$150 Members, \$300 Non-Members, \$100 Students. Includes Breakfast, Lunch, & seminar text, “**NFPA 70E – 2018 Standard for Electrical Safety in the Workplace**” (a \$75 value) is included with this seminar.

**CE Credits:** Six Continuing Education hours will be awarded. Be sure to enter your name and PE number on the signup website as it appears on your license. Florida exempt provider #00015.

**Reservations:** Online at: <http://time2meet.com/fwcs-pes4/index.html> (Select Reservations)

Make checks payable to IEEE FWCS and mail a check in advance to

IEEE PE/IA Chapter Treasurer:

3133 W Paris Street

Tampa FL 33614-5964

Questions: Tom Blair at 813-228-1111, ext. 34407 or [thblair@tecoenergy.com](mailto:thblair@tecoenergy.com)

Seminar Text A \$75 Value is included with this Seminar.

Your local IEEE PES/IAS Chapter is offering this six hour training on Electrical Safety in the Workplace by John Leedy, Owner of Engineered Electric Services, LLC, a local Engineering and Electrical Contractor in Central Florida.

This training session will be devoted to the subject of Electrical Safety in the Workplace as it relates to the latest edition of the NFPA 70E-2018 and the updates contained therein. Topics such as “how does electrical safety and the NFPA-70E apply to the workplace” and “what is required to be compliant with the standard” will be covered. Also, some real-life scenarios will be discussed to address everyday application of the NFPA 70E requirements.



## Wave Functions

# *Field Experience and Event Analysis 101*

**Date:** Friday, February 7th, 2020

**Time:** Registration & Light Breakfast: 8:30AM - 9:00AM

Seminar: 9:00AM - 2:00PM

**Speaker:** Richard D. Kirby, PE

**Course Level:** Intermediate.

**Location:** FRCC 3000 Bayport Drive., #600, Tampa, FL 33607

Parking: Use parking lot for Hyatt (North side only).

**Cost:** \$100 Members, \$200 Non-Members, \$10 IEEE Students, \$20 Non-IEEE Students.

Includes Light Breakfast, Lunch.

**CEH Credits:** **4 Professional Development Hours will be awarded.** Be sure to enter your name and PE number on the signup website as it appears on your license.

**IEEE Florida Provider Number is 0003849.**

**RSVP:** Online at <http://time2meet.com/fwcs-pes1/index.html> (Meeting)

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**Questions:** Anthony Springsteel at 727-494-3992, or [anthony\\_springsteel@selinc.com](mailto:anthony_springsteel@selinc.com)

### Key Areas to be Covered:

During this session, participants will:

- Gain insights about performance from recent field events.
- Learn how to analyze traveling-wave events and the operation of time-domain protection.
- Learn how to perform traveling-wave-based fault locating offline for simple and complex line configurations.
- Learn about the continuous line-monitoring feature for detecting incipient events.
- Hear about the new relay features coming in 2020
- Demonstration of software to view traveling-waves and create Bewley lattice diagrams.

## USF Student Activities Updates

### USF—PES

The Joint Chapter of IEEE Power and Energy Society and Industry Applications Society had the opportunity to host Wayne Hartmann, a senior member of IEEE, to talk with students about microgrid technology. This lecture was filled with lots of material that ties into power classes offered at USF, giving students a professional perspective from outside the classroom. These types of events are rewarding for those who will be entering the workforce during a transformative time for the power industry.

### Upcoming event: TECO Tour

Tom Blair has welcomed us to tour the Big Bend generation facility in Tampa. Our student chapter was introduced to the solar array last year, but we have not yet had the opportunity to tour the power plant on-site. This is a great opportunity to get an introduction into a local facility that many of our members have gained invaluable experience from internships and co-ops.

### USF—Main

Unfortunately, the University of South Florida student branch had to cancel their fall picnic due to weather, but has been hard at work preparing the best banquet for its members—with the plus side of being inside! As the semester winds down to an end, the student branch focuses on continuing to support its members in groups like SoutheastCon and mentorship. In SoutheastCon, the main autonomous robot concepts are built and the mentor projects are just wrapping up their design stages, while beginning the job hunt. Check us out online at our website, Facebook and Instagram to stay updated!

### WAMI Forum 2019

What a success for the first WAMI Forum! Over 120 students, faculty, speakers and members attended the event, enjoying eight presentations from various industry speakers and a panel dedicated to helping the students navigate what a career in RF looks like. A special thanks to all the members who made the event possible, and the countless student hours dedicated to making it a success.



## Dr. Ralph Fehr Memorial Scholarship



A scholarship fund has been established in memory of **Dr. Ralph Fehr**, electrical engineering faculty member. The lives he touched through his influence, intelligence and general concern for the student body will resound within our halls for decades to come. We miss him greatly and will always remember his sense of humor. To contribute, go to [USF Giving](#) and select Give to a Specific Fund. Enter Ralph Fehr III Memorial Scholarship (#220132) To learn more about creating your own scholarship, contact [Tim Murphy](#).

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## MOTORTRONICS/PHASETRONICS OUTSTANDING TOUR



Motortronics/Phasetronics provided our local IEEE PES/IAS Chapter members a very educational tour of their facility and provided training on Silicon Controlled Rectifier controllers. They covered controllers for both motor and non-motor loads for applications up to 12,000kW and 15KV class equipment. They discussed both the design and operation as well as the more recent improvements in controller applications utilizing communication between controllers.

The training provided was outstanding and the local IEEE PES/IAS Chapter wishes to express our gratitude to the employees of Motortronics with a special thank you to Mr. Greg McPeck who organized the training and tour for our local engineering community.

## Great American Teach In (GATI) at Meadowlawn Middle School in St Pete, FL Nov. 13th

**Ms. Jacqueline Briggs**, Family and Community Liaison, had a great line up for us for the GATI:

**Ms. Docobo** 1<sup>st</sup> period 6th grade Math Class (25 students): 9:40am – 10:27am and 2<sup>nd</sup> period 6th grade Math Class (25 students): 10:30am – 11:27am.

**Ms. Valentine** 3<sup>rd</sup> period 8th grade Math Class (20 students): 11:31am – 12:17pm.

Our first session started at 9:40am. Emma Alaba welcomed everyone to the GATI, followed by introduction of my volunteers and myself. Emma talked about the upcoming Robofest competitions and its STEM program for students from K -12<sup>th</sup> grade and college and our local sponsors: Nielsen, Computer Learning Center, St Pete Beach, TBTA, IEEE-RAS, Raytheon, Clearwater, Best Buy, Jabil and PCS. She showed videos of the 2019 Game mission - GolfBowl, 2017 Exhibition winner, RoboParade, and a video of the BottleSumo World Championship winner – which was very exciting for the students to watch. We did a quick tutorial of the Lego Mindstorms Kit, Controller, motors, sensors and the programming. All three sessions followed the same format. The third session was a surprise – 8<sup>th</sup> graders instead of 7<sup>th</sup>.

### **STEM Project #1: Noise Detector: using the Sound sensor.**

The sound sensor range about 50..90dB, return value of 0..100%. Of course we used 100%. Lower the number, the quieter the reading, higher the number louder the reading. In this project the robot mimic a mouse. The mouse runs away when the room is quiet and stops when the room is loud. The interaction between the students and the robot/mouse was quite unique and 'loud'. The mouse did not get far, LOL! This activity for the 8<sup>th</sup> graders prove to be extremely loud – so, next time I will put the dB value at 45% - LOL!

**STEM Project #2: Race: using the Ultrasonic sensor.** The ultrasonic has a range of states between 0 and 255cm. It gives the robot vision, enabling it to see and detect objects. The students always enjoy a race: one group starts the robot and the other group stops the robot (by extending their hand when the robot gets within 15 inches). The robot will run until encounters an object, stop and turn around. The race was a hit. Such a simple activity, but very enjoyable.

**STEM Project #3: Battle of the Robots: using the UltraSonic and Touch sensors.** This year the team put all the robots in the ring – face off. And they battle it out for a minute or two. The last one standing or moving wins. We had three rounds. The ring had to be repaired after each session. Amy, the librarian was awesome. She repaired the ring with some very strong tape. This was an absolutely awesome battle and the students loved it, also the adults! Most of the students have never done robotics STEM activities like this before. A fantastic way to end all 3 sessions and the GATI.

Thanks Sean for emailing the Teacher In-Service Survey form. Roxan and Daniella made sure they were filled out by the teachers and returned (total of 4). They also passed out the Robofest competition season flyer to each student. The teachers were a great help with crowd control. The librarian was our angel. She switched out the laptop, paired her sound box for sound and etc. She is just starting her Maker Place in the library. I told her about IEEE and the TryEngineering program. Emma will be meeting the robotics person later. Thank you teachers, students and staff at Meadowlawn. It was our pleasure to participate in the 2019 Duke Energy GATI. Great job Roxan and Daniella, you all made this an awesome STEM day. The students and the teachers enjoyed the STEM activities. We were given a very nice certificate of appreciation. A big thank you to all of our sponsors and supporters and volunteers for making this happen for the students at Meadowlawn Middle School.

Emma Alaba

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**December Calendar of Events (For more information see P. 1) in this Signal...**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2 EMBS Meeting 6-7pm. USF ENB Room 109	3 FWCS EXCOM Meeting TECO, 5:30 p.m.	4 PACE Meeting— What's Inside of Me? 6pm-7:30pm. TEC Plaza	5	6	7 <b>63rd FWCS Anniversary Cele- bration, Florida Aquarium,</b>
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25 	26	27	28
29	30					