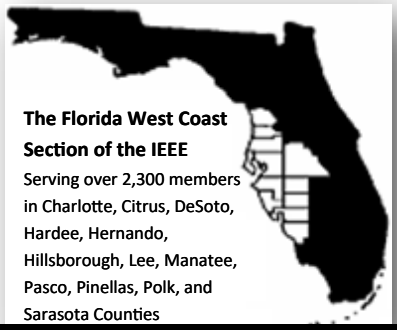
http://www/ieee.org/fwcs



IEEE

THE SUNCOAST SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

Volume 63—No. 6 June 2017

IN THIS SIGNAL:

Best Wishes to FWCS

Effective June 28, I will be relocating to New York City, vacating my position as the vice-chair of the Florida West Coast Section and as chair of the CS/AESS chapter for the Florida West Coast Section. Are you interested in actively participating, organizing, and administering technical discussions for the CS/AESS Chapter? At this time, there are multiple opportunities available within the CS/AESS chapter. We recently held a meeting to brainstorm potential technical topics for future discussion, which will be made available to succeeding chair. Additional ideas for topics of discussion are welcomed as well.

Contact Claude Pitts at Claude.Pitts@ieee.org to inquire about the available positions with the Computer Society/Aerospace and Electronics Systems Society or the FWCS.

Thank you for your support,

Jim Cavanaugh

Historical Contraversy

On June 2, 1896, Guglielmo Marconi receives a patent for his newest invention: the radio. But did he really invent it? Nikola Tesla also filed successful patents for the radio in the U.S. Explore this controversy that has been festering for over 12 decades:

http://www.pbs.org/tesla/ll/ll_whoradio.html

USF Electrical Engineering Program Movin' On Up!

The latest U.S. News and World Reports rankings of engineering programs is out, and the University of South Florida's Electrical Engineering program is movin' on up! In 2013, USF was ranked #112 among all schools in Electrical Engineering. USF is now at #83! Among public schools, USF improved from #51 to #50 over the same timeframe. And the progress is only beginning, because the department has finalized a modernized curriculum which allows students to develop significant depth in various subdisciplines by increasing technical elective credit hours from 12 to 27. The new curriculum goes into effect this coming fall.

Faculty in the Electrical Engineering department are also on the rise. Dr. Huseyin Arslan became the fourth IEEE fellow in the department, an all-time high. Five new faculty members were added this past year, adding strength to the department's growing security expertise and bolstering its biomedical expertise. Also, Dr. Rich Gitlin was inducted into the Florida Inventors Hall of Fame, and Department Chair Tom Weller was named Fellow of the National Academy of Inventors.

The student body is growing, with an all-time record of 381 graduate students. The activity level of the students is also on the rise, with a very busy IEEE student branch, and several student chapters setting new membership records each semester. The Power and Energy society student chapter includes over 200 students, with close to 50% of them participating in chapter activities. This level of active participation is seldom seen in any volunteer organization. Congratulations to the students who are taking an active role in these important groups.

Upcoming Meetings

FECA Seminars—Substation Control and Protection Design & Analysis of Unbalanced Power Systems

Monday, June, 2017 8:00AM at Sand Pearl Resort, Clearwater Beach
Register form on Page 5 of this Signal
Details on Page 4

EXCOM Meeting

Tuesday, June 6, 2017 5:30PM at TECO Plaza
Register online at http://time2meet.com/fwcs-excom/index.html

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.

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http://www.ieee.org/benefits Global Benefits Finder

http://www.ieee.org/discounts Discounts Page

PE Corner

Art Nordlinger, PE, Senior Member

Continuing Education Committee Report

As I have recently noted, the Board is currently looking at a number of rule changes, including the rules for Continuing Education, Chapter 61G15-22 FAC. A committee has been meeting to discuss various issues surrounding continuing education that were received from a number of sources, including Board members, PEs, continuing education providers, and members of the public.

As you may imagine, some issues were brought up more than once and in different contexts. They were eventually "boiled down" to 26 or so issues for discussion by the committee. The committee has decided to consider some of these issues for rulemaking while dropping others for a variety of reasons. Some of the suggestions, while the committee felt they had merit, can't be considered for rulemaking because they conflict with the underlying Statutes governing continuing education. Note that under Government in the Sunshine rules, all of the proceedings of the committee are public record.

I found some of the issues to be very interesting and, I hope, of interest to you. I'll opine on a few without discussing whether they are being considered for future rulemaking, as that may change.

For example, the current rules allow an engineer to claim technical continuing education hours for participation in a professional society. A number of engineers have asked whether this category could be expanded to other board participation. For example, some engineers sit on quasi-governmental or advisory boards for local or regional water agencies and building departments. These, at least in some cases, discuss technical issues and it has been suggested that this type of participation should count for continuing education. For this to work, a clear definition of what types of boards would count will need to be developed.

Another similar area is whether an engineer's participation in Science, Technology, Engineering, and Math (STEM) education should count for continuing education hours. This might include MathCounts or FIRST Robotics competitions, or other similar activities. Again, exactly what activities should qualify will need to be carefully defined for this to work

If you have taken an online course to attain continuing education hours, you know that all online courses require a test to show competency. This is in the Board's rules. In most cases, online courses allow the student to take the test multiple times without penalty until the student passes. It has been suggested that in-person seminars should similarly require a test. This suggestion stems from observations of seminar attendees that are present at a seminar, but doing other work and not paying attention. Personally, I think this more of a professional integrity or ethics question. And I'm not sure how the logistics would work for a student and instructor in terms of having to administer an exam multiple times in a live setting.

These are just a few of the issues being discussed by the Continuing Education Rules committee. As the committee's work continues, I will report on its progress.

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. Better start earning those CEHs now!

36th Digital Avionics Systems Conference Coming to St. Petersburg

The 36th AIAA – IEEE AESS Digital Avionics Systems Conference (DASC) is coming to St. Petersburg this September (17-21) and will be held at the Hilton Bayfront hotel on the Tampa Bay side of the city. The DASC offers speakers and technical paper sessions on avionics, systems and air traffic management.

The conference theme for the 36th DASC is the design of technologies, procedures, and regulations to safely and efficiently accommodate a diverse spectrum of platform types into space and into modern civil airspace systems, including civil aviation (large passenger aircraft), commercial aviation (cargo), general aviation (small passenger aircraft), military platforms, and unmanned systems that occupy many of these categories.

Details are available at 2017.dasconline.org. If you are interested in volunteering to support the DASC please contact Douglas Abernathy at douglas@aiaadatc.org.

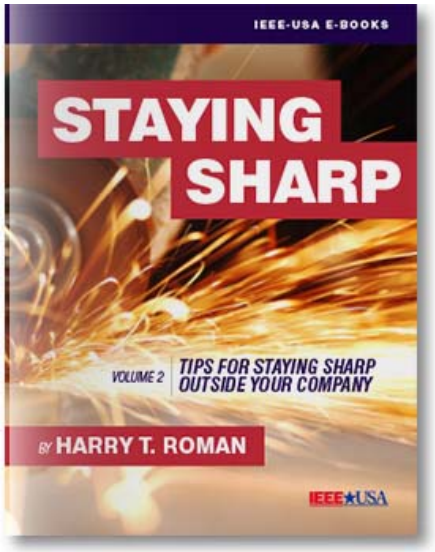
Satisfied With Your Career? Want to Give Back?

If you are satisfied with the way your career is shaping up, there's a good chance that IEEE has played some role in that success. Maybe it's the contacts you've made or perhaps the knowledge you've gained through meetings, conferences, and publications. If your career could stand a boost, IEEE can help. Member benefits are many -- be sure to take advantage of them.

Giving back to an organization from which you've derived benefit is one of the most satisfying experiences a professional can have. Many opportunities to give back exist -- and many do not involve a huge time commitment. Plan an event or organize a meeting -- you'll feel great and will be helping us all. Contact a section officer for details.

Free E-Book

In today's world, staying sharp "outside" your company is just as important as staying sharp "inside" your company. One of the ways you can enhance your non-technical skills for career success is through volunteering in your community.



In May, IEEE-USA E-BOOKS is offering the award-winning "Staying Sharp--Volume 2: Tips for Staying Sharp Outside Your Company" free to IEEE members.

An active IEEE member for many years, author Harry T. Roman also advocates volunteering in IEEE and other technical and professional societies as an ideal way to enhance your overall professional experience. For example, participating in your local IEEE section is a great way to meet people. Additions to your personal network can benefit you when you need advice, assistance, or are looking for work.

Now through 15 June, IEEE members can get a free download of this e-book by going to: http://shop.ieeeusa.org/usashop/product/careers/138629. Log in with your IEEE Web account, add the book to your cart and use promo code MAYFREE17 at checkout.

Roman especially recommends volunteer positions that require public speaking.

"Speaking in public is a powerful tool for you to master," he says. "What's more, people you meet will invariably strike up conversations, which could turn out to be excellent networking opportunities."

Substation Control & Protection Design AND Analysis of Unbalanced Power Systems

Date: **Monday, June 5, 2017**

Time: **Registration: 8:00AM – 12:00PM and 1:00PM – 5:00PM**

Speakers: Serge Beauzile, P.E., Manager of Substation Operations, Lakeland Electric

Ralph Fehr, Ph.D., P.E., Instructor II, University of South Florida Engineering Faculty

Location: **Sand Pearl Resort, 500 Mandalay Ave, Clearwater Beach**

In conjunction with Florida Electric Cooperative Association (FECA)

Cost: **$125 for Members, $175 Non-Members**

PDH Credits: **8 professional development hours will be awarded. Be sure to enter your name and PE number on your registration as it appears on your license. IEEE Florida Provider Number 3849.**

RSVP: **RSVP is required. Walk-up participants cannot be accommodated.**

Morning Session

Substations are designed, constructed, and operated to meet customers' needs at the lowest possible cost to adequately provide the desired service reliability. This Seminar will cover detailed Protection and Control design requirements of a typical substation. You will gain a better understanding of following Control and Protection drawings

1) One-Line Diagram - Switching	2) One-Line Diagram - Functional Relaying	3) Three-Line Relay Diagram
4) Cable & Conduit Schedule	5) Conduit Layout	6) Control House
7) Station Service Diagrams AC and DC	8) Control Panels	9) Schematic and Detailed Wiring Diagrams

Speaker Bio: Mr. Beauzile earned his B.S.E.E degree from Manhattan College in New York, his M.S.E.E from Polytechnic, New York University. He has been employed in the electric power industry for over 27 years. He is currently the Manager of Substation Operations & System Protection at Lakeland Electric where he is responsible for overseeing and directing all functions relating to the, engineering, construction, maintenance and operation of electric substations. He is currently the chair of Chair of the Power and Energy Society and past chair of the IEEE Florida West Coast Section. He is a registered professional engineer in multiple states.

Afternoon Session

Power systems operating under unbalanced conditions, such as during a fault, are difficult to analyze using the analysis methods applied to balanced operation. The method of symmetrical components simplifies the mathematical process, but often the theory of symmetrical components is poorly understood by the engineer, as it is typically taught as an abstract mathematical procedure.

This seminar removes the mystery from symmetrical components by approaching the theory in a very logical manner, using a novel method developed by the presenter. The process of developing sequence networks, also an abstract concept to many engineers, is thoroughly examined, and a novel method for constructing the sequence networks is presented.

The level of understanding gained from this seminar will enable the participant to not only use symmetrical components and sequence networks to analyze short-circuit and open-circuit faults, but will also shed light on other aspects of power systems such as harmonics.

- Mathematics review: phasors and per-unit
- Symmetrical components
  - Physical example of vector components
  - Electrical characteristics of sequence currents
  - Application to three-phase power systems
  - Sequence analysis of delta-wye transformer
- Sequence networks
  - Positive-, negative-, and zero-sequence network construction
  - Thevenin reduction of the sequence networks
  - Sequence behavior of harmonics
  - Short-circuit and open-circuit fault modeling

Speaker Bio: Dr. Fehr earned his B.S.E.E. degree from the Pennsylvania State University, his M.E.E.E. concentrated in power from the University of Colorado at Boulder, and his Ph.D. from the University of South Florida (USF). He has been employed in the electric power industry for over 20 years, and has taught engineering courses at both the undergraduate and graduate levels since 1997. He currently serves on the Electrical Engineering faculty at USF. He also provides consulting and training services to the power industry, teaching short courses and seminars throughout the United States and worldwide. He is a senior member of IEEE, and a registered professional engineer in Florida and New Mexico.

Registration Form

FECA / IEEE Seminars on June 5, 2017

Substation Control & Protection Design (4 PDHs)

Presented by Serge Beauzile

8:00 am – 12:00 pm

Lunch on your own

Analysis of Unbalanced Power Systems (4 PDHs)

Presented by Dr. Ralph Fehr

1:15 pm – 5:00 pm

Sand Pearl Resort

Clearwater, FL

Name of Company_____

# of IEEE members attending @ $125 each: _____
# of Non - IEEE members attending @ $175 each: _____

Persons Attending (please list **Name as it appears on the PE License**, PE License # and/or IEEE Member #):

NAME(s) PE License # IEEE Membership Number

_____

_____

_____

_____

Prepared by:_____ Phone #_____

Please fax/email registration form and mail a check for registrations payable to FECA. All registration fees must be prepaid in order to attend the conference. Cancellations must be received by June 2, 2017 in order to receive a refund. We are unable to accept credit cards.

Mail to: **Raymond G. Trusik** rtrusik@feca.com
Florida Electric Cooperatives Association, Inc.
2916 Apalachee Parkway
Tallahassee, Florida 32301
850-877-6166 Ext. 5 **Fax to:** **(850) 656-5485**

Hotel Information:
Sand Pearl Resort **Telephone**
500 Mandalay Ave. **727-441-2425**
Clearwater, FL 33767 http://www.sandpearl.com

For directions see
http://www.sandpearl.com/Location_Directions_Hotel_Resort_Clearwater_SandPearl.asp

FWCS PES UTILITY USERS GROUP MEETING
GENERATOR / TRANSFORMER PROTECTION

Date: Friday, July 14, 2017 Registration: 8:00AM – 8:30AM Time: 8:30AM – 3:30PM

Speaker: Wayne Hartmann VP, Protection and Smart Grid Solutions Beckwith Electric

Location: 13031 Wyandotte Road, Apollo Beach, FL 33572

CEH Credits: 6 Continuing Education Hours (CEH) 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 3849.

Cost: $50 Members, $100 Non-Members, $10 Students. Includes Breakfast, Lunch.

RSVP: Online at: http://time2meet.com/fwcs-pes2/index.html

Make checks payable to: IEEE FWCS
Send checks to: Jim Howard, IEEE FWCS Treasurer; 3133 W. Paris Street; Tampa, FL 33614-5964
Questions: Tom Blair at 813-228-1111, ext 48179 or tom_blair@ieee.org

Your IEEE PES West Coast Chapter Utility Users Group is meeting in July and will cover generator and transformer protection systems. The course will cover aspects of IEEE C37.102, IEEE Guide for AC Generator Protection and IEEE C37.91, IEEE Guide for Protecting Power Transformers.

Our distinguished speaker will be Mr. Wayne Hartmann VP, Protection and Smart Grid Solutions Beckwith Electric. Mr. Hartmann provides customer and industry linkage to Beckwith Electric's solutions, contributing expertise for application engineering, training and product development. Before joining Beckwith Electric, Wayne performed in application, sales and marketing management capacities with PowerSecure, General Electric, Siemens Power T&D and Alstom T&D. During the course of Wayne's participation in the industry, his focus has been on the application of protection and control systems for electrical generation, transmission, distribution, and distributed energy resources.

Who Should attend this course? Power plant and substation protection engineers and technicians, as well as power plant operators and protection generalists who desire a deeper background on the subject of generator & transformer protection at utility generation and substation locations. Topics to be covered will be:

Generator & transformer construction and operation - Grounding and connections - IEEE standards for generator and transformer protection - Generator and power system interaction - Generator & transformer protection element review - Internal faults vs External faults - Tripping considerations and sequential tripping - Discuss tactics to improve reliability - Redundancy concepts - Lessons learned from NE Blackout (2003) - Explore Setting, Commissioning and Event Investigation Tools

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Should You Be a Senior IEEE Member?

The Florida West Coast Section is looking to assist Members in elevating their grade to Senior Membership. If you know of someone who you feel is qualified then please encourage them to contact Claude Pitts (claude.pitts@ieee.org) or Herman Amaya (hamaya@tampabay.rr.com). If you have desired to become a Senior Member but not sure what to do or need references, then please know your Section can help you in making the next steps towards Senior Membership.

To be eligible for application or nomination, candidates must:

* be engineers, scientists, educators, or technical executives;
* have experience reflecting professional maturity;
* have been in professional practice for at least ten years;
* show significant performance for at least five years.

Senior member is the highest grade for which IEEE members can apply. IEEE members can self-nominate, or be nominated, for Senior member grade. Have you been in engineering for over 10 years? If so, you may qualify for Senior Level membership in IEEE. There is no additional fee to apply for senior member grade.

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June 2017 Calendar of Events (For more information see P. 1) *in this Signal…*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 <World Robofest	**2** St. Pete Beach	**3** Community Ctr.>
4	**5** *FECA Seminars* Details—Page 4	**6** *EXCOM Meeting 5:30 TECO Plaza*	**7**	**8**	**9**	**10**
11	**12**	**13**	**14**	**15**	**16**	**17**
18	**19**	**20**	**21**	**22**	**23**	**24**
25	**26**	**27**	**28**	**29**	**30**	