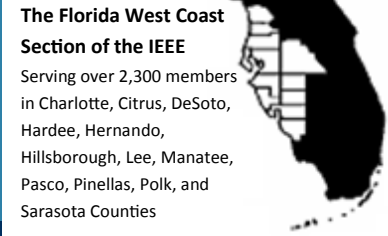




THE SUNCOAST SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

Volume 60—No. 8 August 2015



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Upcoming Meetings

EXCOM Meeting

Tuesday, August 4, 5:30PM at TECO Plaza

Register online at <http://time2meet.com/fwcs-excom/index.html>

Open to all FWCS Members

Super Capacitors

Tuesday, August 20th, 6:30 PM

Largo STAR Center

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All You Need to know about Switchgear

Thursday, August 27th

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Cognitive Radar inspired by The Brain: Theory and Applications”

IEEE Distinguished Lecturer: Dr. Simon Haykin

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Arc Flash - Updates and Training on NFPA 70E-2015

Electrical Safety in the Workplace.

September 25, 2015

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IEEE Computer Society Conference - Local Computer Networks (LCN)

October 26-29

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PE Corner

Art Nordlinger, PE, Senior Member

Florida Professional Engineer Continuing Education Requirements Change

Note: This information is taken directly from the Florida Board of Professional Engineers website. <https://www.fbpe.org/index.php/continuing-education/continuing-education-ce-requirements>

Beginning March 1, 2015 all professional engineers licensed in Florida will be required to obtain a total of eighteen (18) continuing education (CE) course hours in order to renew their licenses. These requirements are officially in effect for the 2015-2017 biennial renewal.

This is a significant change from the four technical hours and four rules and laws hours required for previous renewals. The increased number of hours will make it necessary for all PEs to start earlier earning their professional development hours versus waiting until the last minute. Over the next several installments I will explore the details of these rules. Some of these have changed with the new requirements.

Of the 18 hours, one (1) hour must be related to the laws and rules of professional engineers, one (1) hour must relate to professional ethics, and the remaining 16 hours can relate to any topic pertinent to the practice of engineering. Continuing education hours may be earned by presenting or attending seminars, in-house or non-classroom courses, workshops, or professional or technical presentations made at meetings, webinars, conventions, or conferences, including those presented by vendors with specific knowledge related to the licensee's area of practice. One (1) hour of the continuing education course hours may be obtained by serving as an officer for a Board-recognized professional or technical engineering society. The required hours relating to law, rules and ethics may also be earned by a PE serving as a member of the Legislature or as an elected state or local official.

Refer to F.S. 471.017(3) and Chapter 61G15-22 for a full description of the changes related to continuing education requirements for licensed engineers.

Upcoming opportunities to earn PDHs

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Super Capacitors

Tuesday August 20th, 6:30 PM

Largo STAR Center

7887 Bryan Dairy Road Largo, FL 33777

There is a lot of information out in the market today about Super Capacitors. Hector will clear the air on what they are, what their advantages are, and when they are best utilized.

- Overview
- Small, large, modules
- Advantages/Disadvantages
- Cell Balancing considerations
- Application Market Segment Examples
- Open Discussion

Speaker: Hector Nieves –

4 years of Experience as an FAE in capacitor technology with KEMET Electronics Corp.

10 years of electronics industry experience with previous positions at UDP Technology, L3 Communications and GE Industrial Systems.

BS Degree in Electrical Engineering from Purdue University and pursuing a MS Degree in Engineering Management from the University of South Florida in Tampa, FL.

Organizer: For more specific information please contact:

Chris Lambrecht. E-mail: chris.lambrecht@ieee.org, Phone: 727-458-9061

Cost is \$2 for Students and Life Members, \$4 for IEEE Members, and \$6 for Non Members.

Food and beverages will be provided

All You Need to know about Switchgear

- Date:** Thursday, August 27, 2015
Time: 11:00am-1:00pm
Host: Michael W. Wactor P.E.
Location: City of Lakeland Training Center - 989 Memorial Blvd. Lakeland Florida 33801
Cost: \$10.00 Members; \$20 Non-Members; Student IEEE Members free with Student ID
RSVP: Online at: <http://time2meet.com/fwcs-pes1/index.html>

Topics Covered:

I. Introduction

- a. Definitions
 - i. Metal-Enclosed
 - ii. Metal-Clad
 - iii. Arc Resistant
- b. Test Techniques
 - i. Bolted Fault
 - ii. Arcing Fault
- c. Standards

II. Ratings

- a. LV Switchgear
- b. MV Switchgear
- c. Arc Resistant Switchgear

III. Testing

- a. Standard Switchgear
- b. Arc Fault
- c. Testing Issues

IV. Application of Arc Resistant Switchgear

- a. Construction
 - i. Arc Resistant Types

Michael W. Wactor received a B.S.E.E. from the University South Carolina in 1980.

He has worked with the design of medium voltage distribution switchgear and motor control since graduation. He joined Powell Electrical Manufacturing Company in 1992 as a Senior Design Engineer and became the Technical Director for Powell Industries Corporate Product Development in 2010.

He is a senior member of the IEEE, a member of the Power and Energy Society Main Committee, Switchgear Assemblies Subcommittee, and currently serves as the Standards Coordinator for the PES Switchgear Committee.

He is the chairman for the working group for IEEE C37.20.2 "Standard for Metal-Clad Switchgear" and C37.20.7 "Guide for Testing Medium-Voltage Metal-Enclosed Switchgear for Internal Arcing Faults". He also serves on a number of additional working groups under the IEEE SA subcommittee.

He is a contributing author to the "Standard Handbook for Electrical Engineers", has authored numerous papers including; "Design Considerations for 38kV Metal-Clad Switchgear using Vacuum Technology" (1994 IEEE T&D Conference Transactions), "Modeling of the Pressure Wave Associated with Arc Faults" (2000 IEEE PCIC Technical Conference Transactions PCIC-2000-35), "Strategies for Mitigating the Effects of Internal Arcing Faults in Medium-Voltage Metal-Enclosed Switchgear" (2001 IEEE T&D Conference Transactions 01TD227), and "Application of Switchgear in Unusual Environments" (2010 IEEE PCIC prize winning paper).

He holds a U.S. patent for the design of a Voltage Transformer Disconnect Grounding System.

Mr. Wactor is a Registered Professional Engineer in the state of Texas



“Cognitive Radar inspired by The Brain: Theory and Applications”
IEEE Distinguished Lecturer: Dr. Simon Haykin

Tampa, FL – September 21, 2015 at 6:00 pm

The IEEE Aerospace and Electronic Systems Society proudly presents Dr. Simon Haykin, a Distinguished Lecturer for the global AESS society. Dr. Haykin will travel from McMaster University in Ontario, Canada to present his research over the past year on Cognitive Radar, a subset of the Cognitive Dynamic System discipline he has developed. The Cognitive Radar in Dr. Haykin’s research closely mimics the visual brain! Practical attributes of Cognitive Radar from an engineering perspective will be discussed.

Dr. Haykin has dedicated his research over the past year to Cognitive Dynamic Systems, including Cognitive Radar and Cognitive Control. During this event, he will concentrate on the Cognitive Radar portion that closely mimics the visual brain. Specifically, the following will be covered:

- The four principles of cognition: perception-action cycle, memory, attention and intelligence, each one of which will be carefully defined.
- Structural composition of Cognitive Radar that will build on these principles, and the role of each principle will be addressed.
- To demonstrate the information-processing power of the Cognitive Radar and its novel control capability, an air traffic control example with deep-corner turn for the experiment will be used. The unique capability of Cognitive Radar will thus be demonstrated using computer simulations.
- With target tracking as the objective, the important properties of the new Cubature Kalman Filter, developed in Dr. Haykin's lab, will be highlighted.

Please read more about the details of this amazing opportunity and register early for this space-limited event at: <https://meetings.vtools.ieee.org/m/35261>.

Food and beverage will be provided. Please contact Jim Cavanaugh with any questions: James.A.Cavanaugh@ieee.org

Cost is \$5 for Student and Senior IEEE members, \$10 for IEEE members and \$20 for non-members.

***Arc Flash - Updates and Training on NFPA 70E-2015
Electrical Safety in the Workplace.***

Date: Friday, September 25, 2015

Time: Registration & Breakfast: 8:00AM-8:30AM

Seminar: 8:30AM – 3:00PM

Speaker: John Leedy, P.E., Owner, LEEDY ELECTRIC EAST, LLC

Location: Seminole Electric Cooperative, 16313 North Dale Mabry, Tampa, FL 33618

Cost: \$150 Members, \$300 Non-Members, \$100 Students. Includes Breakfast, Lunch, & seminar text, “NFPA 70E – 2015 Standard for Electrical Safety in the Workplace” (a \$65 value) is included with this seminar.

PDH Credits: 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. 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:

PES/IAS Chapter 2593 Forest Run Court

Clearwater, FL 33761-3716

Space limited to the first 50 registrants!!!

Questions: Tom Blair at 813-228-1111, ext. 34407 or thblair@tecoenergy.com

Seminar Text A \$65 Value is included with this Seminar.

Your local IEEE PES/IAS Chapter is offering this 6 hour training on Electrical Safety in the Workplace by John Leedy, Owner of Leedy Electric East.

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-2015 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.

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-2015 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.

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A copy of the standard, NFPA-70E-2015 Standard for Electrical Safety in the Workplace is included in the training costs.

John Leedy graduated from University of Florida in 1982 with a Bachelor of Science in Electrical Engineering with an emphasis in Power Delivery. John worked for Dillard Smith Construction as a protective relay technician. He joined General Electric as a Field Engineer, specializing in Power Substations and DC Electronic Drive Systems in Paper Mills as well as Project Management of Paper Machine Drive System retrofits and substation construction and commissioning. John left GE to join the family business, Leedy Electric Corp, in 1987. He earned his PE license for the State of Florida in 1992 and the State of Georgia in 2013 and received his Masters in Engineering Management from the USF in 2002. John has been working with NFPA 70E regulation since 2002, performing hundreds of Arc Flash Risk assessments throughout the SE United States, training management and employees on the standard. Leedy Electric is located in Mulberry Florida, and has been in business since 1975, specializing in Engineering and Electrical Service for the commercial and industrial industries.

IEEE History Center Social on Twitter and Tumblr

The IEEE History Center is bringing history to more people via social networking tools such as Twitter and Tumblr. Follow the activities of the IEEE History Center and others involved in the history of engineering on its Twitter feed at <https://twitter.com/ieeehistory>.

The IEEE History Center maintains a blog on Tumblr in which interesting images related to the history of technology are posted. Featured in Tumblr's history and science categories, the blog has approximately 132,000 followers as of June 2015 and more than 170,000 total social interactions. To date, six of the posted images were featured on Tumblr's radar, a feature that allows the Tumblr staff to broadcast selected images to all logged-in users. These posts receive significantly more social interactions, the highest reaching 12,000. To follow the blog or to view the images, go to <http://engineeringhistory.tumblr.com/>.

AUGUST FREE E-BOOK

In August, IEEE-USA E-books will offer “Work-Life Balance -- Book 2,” by Peggy Hutcheson.

In “Book 1”, Hutcheson introduced some of the major issues that lead to varying degrees of balance in a person's sense of satisfaction in life. In “Book 2” she explores work-life balance, with regard to career stages -- young professional, mid-career and late career.

IEEE-USA E-books seek authors to write an e-book or e-book series on career guidance and development topics. If you have an idea you think will benefit members in a particular area of expertise, please email your proposal to IEEE-USA Publishing Manager Georgia C. Stelluto at g.stelluto@ieee.org and IEEE-USA E-Book Chair Gus Gaynor at g.gaynor@ieee.org.

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PE/IA Tour of TECO's Polk Power

Were you one of the members who got to tour this outstanding facility? If not, you missed a great opportunity to hear about and tour this Power Plant. TECO shared with the group how they incorporated treated effluent water and the award they won for this work. This plant will provide around 1,400 Mega Watts of power when completed, utilizing both coal and gas for its fuel sources. The goal gasification system was the first plant on the site and, since that time the plant has continued to group.

Our next tour is the Matheson TriGas Air Separation plant in Lakeland. Be sure to sign up and attend.



IEEE Computer Society Conference - Local Computer Networks (LCN)

Sheraton Sand Key Resort -Clearwater Beach, FL - October 26-29, 2015

The IEEE LCN conference is the premier conference on theoretical and practical aspects of computer networking. LCN is highly interactive, enabling an effective interchange of results and ideas among researchers, users, and product developers. Major developments from high-speed networks to the global Internet to specialized sensor networks have been reported at past LCNs.

Conference registration is available via the IEEE online conference registration Web site (<http://www.ieeeln.org/Attendee.html>). Keynote presentations will be delivered by Dr. Robert Metcalfe of University of Texas at Austin and by Professor Muriel Médard of MIT.

Please visit <http://www.ieeeln.org/index.html> for more information about the 40th Anniversary of this conference.

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August 2015 Calendar of Events (For more information see P. 1) *in this Signal...*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
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9	10	11	12	13	14	15
16	17	18	19	20 <i>Super Capacitors 6:30pm Largo Star Center</i>	21	22
23	24	25	26	27 <i>All You Need to know about Switchgear 11am City of Lakeland Training Center</i>	28	29
30	31	1	2	3	4	5