



**The Florida West Coast  
Section of the IEEE**  
Serving over 2,300 members in Charlotte,  
Citrus, DeSoto, Hardee, Hernando,  
Hillsborough, Lee, Manatee, Pasco, Pinellas,  
Polk, and Sarasota Counties



**THE  
SUNCOAST  
SIGNAL**

*THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.*

**Volume 59— No9** <http://www.ieee.org/fwcs> **September 2014**

**IEEE**

**Inside This  
Signal...**

**Page 2**  
\*Event for IEEE  
Members In Southwest  
Florida

**Page 3**  
\* SP/Comm Event Man-  
Machine Interface

**Page 4**  
\* Come Hear From A  
real MacGyver

**Page 5**  
\* OSHA CFR 1910.269  
Electrical Safety  
Revisions

**Page 6**  
\*PACE Presents- The U.S.  
Engineer Immigration  
problem: Armageddon or  
Opportunity

**Page 7**  
\*Commissioning and  
Periodic Maintenance of  
Protection Relays

**Page 8**  
\*IEEE-USA Launching  
New Professional  
Awareness Experience

**Page 9**  
\*Advertising Section

**Page 10**  
\*ITI/GE Plant Tour  
\*Calendar

---

***This Month's Meetings***  
**Tuesday, September 2: EXCOM Meeting**  
**Meeting starts at 5:30PM At TECO Plaza**  
**Register online at <http://time2meet.com/fwcs-excom/index.html>**  
**Open to all FWCS Members**

---

**Event for IEEE Members in Southwest Florida "Nuclear Certification"**  
**SP/Comm Event Man-Machine Interface**  
**[Details on page 2](#)**

---

**The Computer Society/AESS presents New Generation Networks SDN & ACI**  
**[Details on page 3](#)**

---

**Come Hear From A Real Life "MacGyver"**  
**[Details on page 4](#)**

---

**OSHA 29 CFR 1910.269 Electrical Safety Revisions**  
**[Details on page 5](#)**

---

**PACE Presents - The U.S. Engineer Immigration Problem: Armageddon or Opportunity?**  
**Are You an IEEE Senior Member?**  
**[Details on page 6](#)**

---

**COMMISSIONING AND PERIODIC MAINTENANCE OF PROTECTION RELAYS**  
**[Details on page 7](#)**

---

**IEEE-USA Launching New Professional Awareness Experience for Students**  
**[Details on page 8](#)**

---

**ITI/GE Instrument Transformer Presentation and Plant Tour**  
**[Details on page 9](#)**

---

**Calendar**  
**[Details on page 10](#)**

---

## 2014 IEEE EXECUTIVE COMMITTEE

### FLORIDA WEST COAST SECTION

CHAIR: Serge Beauzile (863) 834-6511 [serge.beauzile@ieee.org](mailto:serge.beauzile@ieee.org)

VICE CHAIR: Claude Pitts, [cpitts7@tampabay.rr.com](mailto:cpitts7@tampabay.rr.com)

SECRETARY: Sean Denny, [venner20@ieee.org](mailto:venner20@ieee.org), 727-678-0183

TREASURER: Jim Howard, Lakeland Electric (863)834-6585 [jhoward@ieee.org](mailto:jhoward@ieee.org)

SIGNAL EDITOR: Donna Howard, Serge Beauzile  
Phone (813) 207-7966 [dhoward@frcc.com](mailto:dhoward@frcc.com)

[Serge.beauzile@ieee.org](mailto:Serge.beauzile@ieee.org)

AWARDS & BYLAWS : Richard Beatie, PE,  
[r.beatie@ieee.org](mailto:r.beatie@ieee.org)

MEMBERSHIP: Jim Howard, Lakeland Electric (863)834-6585 [jhoward@ieee.org](mailto:jhoward@ieee.org)

TEACHER IN-SERVICE: Sean Denny: [Venner20@ieee.org](mailto:Venner20@ieee.org)  
(727) 678-0183

PES/IAS CHAPTER: Serge Beauzile, Lakeland Electric,  
(863) 834-6511 [serge.beauzile@ieee.org](mailto:serge.beauzile@ieee.org)

MTT/AP/ED CHAPTER: Jing Wang [jingw@usf.edu](mailto:jingw@usf.edu)

COMP/AESS CHAPTER: James S. Lumia (813) 832-3501, [jlumia@ieee.org](mailto:jlumia@ieee.org)

EMBS: Engineering in Medicine & Biology: John West: 727-743-2267,  
[john.west@ieee.org](mailto:john.west@ieee.org)

ROBOTICS and AUTOMATION SOCIETY, Sean Denny, [Venner20@ieee.org](mailto:Venner20@ieee.org)

SP/COMM CHAPTER: Chris Lambrecht

[chris.lambrecht@ieee.org](mailto:chris.lambrecht@ieee.org)

WIE: Women in Engineering: Valerie Tur, (813) 334-2317, [VLT4@cornell.edu](mailto:VLT4@cornell.edu)

LIFE MEMBER AFFINITY GROUP: Glen Cock

[gcock@tampabay.rr.com](mailto:gcock@tampabay.rr.com), 813-689-4765

GOLD: Victor, Basantes

PACE: Jim Anderson , (813) 425-2467  
[jim.anderson@ieee.org](mailto:jim.anderson@ieee.org)

STUDENT BRANCH CO-ADVISORS:  
Dr. Paul Schnitzler, USF PS&A (813) 974-5584 [pauls@eng.usf.edu](mailto:pauls@eng.usf.edu)  
Dr. Andrew Hoff, [hoff@usf.edu](mailto:hoff@usf.edu)

STUDENT BRANCH MENTOR: Jim Howard, Lakeland Electric (863) 834-6585  
[j.howard@ieee.org](mailto:j.howard@ieee.org) (H) (813) 876-1748

STUDENT BRANCHES:

Kenneth Almirol, [kalmirol@mail.usf.edu](mailto:kalmirol@mail.usf.edu)

CONFERENCES: Richard Beatie, PE,  
[r.beatie@ieee.org](mailto:r.beatie@ieee.org)

WEB PAGE: <http://www.ieee.org/fwcs>

WEB MASTER: Claude Pitts, III, [cpitts7@tampabay.rr.com](mailto:cpitts7@tampabay.rr.com)

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 **1<sup>st</sup> Sunday after the 1<sup>st</sup> 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: [dhoward@frcc.com](mailto:dhoward@frcc.com)  
The Signal, Copyright 2014



## Event for IEEE Members in Southwest Florida "Nuclear Certification"

Have you ever wondered what it takes to give your product a nuclear certification? IEEE members in Southwest Florida, this is your chance to find out! On Tuesday, September 23rd from 6:30 pm to 7:30 pm, we will have a presentation on nuclear standards from a manufacturing industry expert. Ronnie Andersen is the Vice President of Manufacturing at Micro Control Systems Inc., a company that has had its flagship product tested at the National Testing Systems lab in Massachusetts. We will be holding this presentation in the Olive Garden at Coconut Point Mall (8901 Plaza del Lago Dr, Estero, FL 33928). Help spread the word to other engineers in the area. You should have already received an email inviting you to the event. If you haven't gotten the invitation, you can RSVP by calling Remy Echavarria at 813-777-3042 or by email at [rechavar@ieee.org](mailto:rechavar@ieee.org)



## SP/Comm Event Man-Machine Interface

**Topic:** Speaker Recognition given by Dr. Sankar

**Date:** Thursday September 25<sup>th</sup>, 6 PM

**Location:** USF Tampa Room ENB 313

### Abstract:

Speech has been widely used as a man-machine interface in controlling or operating a system. In contrast, speaker recognition is the art of recognizing a speaker from a given database using speech as the only input. Speaker recognition has potential applications in keyless entry to secured areas or access control to a computer/smartphone, access to secure services such as online transactions, etc. Speaker accent also plays a critical role in the evaluation of biometric systems when users may be international in nature.

This talk will present a novel approach to detect speakers by introducing the concept of shifted Mel-Frequency Cepstral Coefficients (MFCC) to improve the performance of past research, where MFCC with Gaussian Mixture Model (GMM) was used. The developed speaker recognition system provided an improved performance when evaluated using a standard TIDIGIT database. The speaker recognition rate was further increased by including accent information added with pitch and higher order formants.

**Organizers:** For more specific information please contact:

Chris Lambrecht. Email : [chris.lambrecht@ieee.org](mailto:chris.lambrecht@ieee.org), Phone: 727-458-9061

Victor Basantes Email : [victor.basantes@caemilusa.com](mailto:victor.basantes@caemilusa.com)

TJ Ross Email : [anthonyross@mail.usf.edu](mailto:anthonyross@mail.usf.edu)

**Have you renewed  
Your membership  
for 2014?**



2013 has come and gone and now is the perfect time to renew for 2014.

Don't miss out! Visit [www.ieee.org/renew](http://www.ieee.org/renew) today.

## Blue Elephant Consulting

Unforgettable communication skills that will set your ideas free...



Dr. Jim Anderson [jim@BlueElephantConsulting.com](mailto:jim@BlueElephantConsulting.com)  
President Phone: 813.418.6970  
[www.BlueElephantConsulting.com](http://www.BlueElephantConsulting.com)

P.O. Box 341734, Tampa, Florida 33694-1734



## Blue Elephant Consulting

Unforgettable communication skills that will set your ideas free...



Dr. Jim Anderson [jim@BlueElephantConsulting.com](mailto:jim@BlueElephantConsulting.com)  
President Phone: 813.418.6970  
[www.BlueElephantConsulting.com](http://www.BlueElephantConsulting.com)

P.O. Box 341734, Tampa, Florida 33694-1734



## The Computer Society/AESS presents

### Next Generation Networks, SDN and ACI

Tuesday, September 30, 2014 at 6:00 PM

#### Presentation Summary:

Software Defined Networking (SDN) is changing the way the IT industry designs, installs, and manages next-generation networks. Network programmability and the network infrastructure's awareness of applications promises to change networking in the way that applications and smart-phones changed the way we use cell phones. Cisco's Application Centric Infrastructure (ACI) provides SDN at scale for Enterprise, Service Provider, and Data Center networks. Cisco's Kyle Galusha will discuss the fundamentals of SDN, ACI, and Network Functions Virtualization (NFV) and their use within industry and the education research community.

This is an open meeting. Non-IEEE members and Students are welcome.

#### Kyle Galusha

#### Biography

Kyle is a Senior Systems Engineering Manager for Cisco's Government and Education practice in the Southeastern United State. He manages sales engineering teams covering FL, LA, MS, AL, AR, TN, KY, WV, GA, NC, SC, MD, VA, and DC. Kyle has been with Cisco for over 16 years in various engineering and management roles. Before Cisco, Kyle completed 20 years of active duty in the US Navy in technical and leadership roles ashore and afloat. Kyle holds BS and MS degrees in Computer Science and Telecommunication Management respectively.

**TECO Hall** meeting room on first floor of at TECO Plaza in Downtown Tampa.

702 N Franklin St, Tampa, FL 33602-4429

**Price:** \$5 Members, \$10 Non-Members, and no charge for Students and Life Members

**Food:** The Computer Society will provide free pizza, soft drinks and bottled water.

**Make Your Reservation:** Please click on Make A Reservation on the left side of the meeting page and enter your information:

<http://time2meet.com/fwcs-cs1/index.html>

If you have any questions, please contact:

Jim Lumia, Chair, FWCS Computer Society and AESS

[JLumia@IEEE.org](mailto:JLumia@IEEE.org)



**EMC Consulting**  
*Interference eliminated*  
**EMC-EMI-E<sup>3</sup> Design & Troubleshooting**



**your EMC WIZARD**

- Finds & solves your EMC problems
- Supports all project phases
- Designs / reviews designs
- Writes / reviews documentation
- Is LOCAL to the Tampa Bay area
- Initial meeting always FREE

Visit [emcwizard.com](http://emcwizard.com) for more

**Stu Benner** phone: 301.730.2144  
INARTE Certified EMC Engineer [stu@emcwizard.com](mailto:stu@emcwizard.com)  
PO Box 51, Odessa, FL 33556-0051



## *Come Hear From A Real Life "MacGyver"*

Your FWCS PACE Group is proud to be able to present to you a very unique seminar: a chance for you to talk with an engineer who is a real life MacGyver. Butch Shadwell is engineer who runs his own business ("Shadwell Technical Services") and offers his customers his expertise in Product R & D, Electronic Systems Design, and Applied Physics.

Butch has done some amazingly cool stuff. His experiences range from nuclear imaging technology, machine vision, and robotic design. Not being content with just solving problems for companies, Butch has branched out. He was elected the international chairman of the IEEE Humanitarian Technology Challenge – Reliable Electricity Team at the National Academy of Sciences back in 2009. Since then he has traveled the world creating experimental power systems out of very basic parts in some of the most remote parts of the globe.

This seminar is going to be the perfect one for you to attend. Butch has some amazing stories to share with you. No matter if you are trying to remember why you got into engineering in the first place, if you know young people who are thinking about a career in engineering, or if you are looking to discover how you can use your engineer skills to make the world a better place, all of your questions will be answered in this seminar. We'll save a seat for you!

Register online here: <http://goo.gl/iFbDBI>

Location: Building: TECO Hall 702 N Franklin St. Tampa, Florida

Date: 17-September-2014 Time: 06:00PM to 07:30PM

Prices: Non-IEEE Members: \$20, IEEE Members: \$17, Life Members: \$5, Students/Graduate Students: \$2

Jim Anderson Mobile: 813-417-8854



## *RAS September Meeting*

**Location:** DeVry University at 5540 W. Executive Drive, Tampa, FL, 33609 Room: 210

**Date:** September 16, 2014

**Time:** 6:30pm to 8:30pm

**TOPICS:** FIRST ROBOTICS Terri Willingham, Regional Director for FIRST in central FL, and a partner in the Eureka! Factory, an experiential learning and consultation company. will provide an exciting discussion and demonstration on FIRST Robotics in the Tampa Bay Area.

Details on the Roboticon Festival on October 12 and the John F. Germany Library's new Makerspace in Downtown Tampa will also be discussed. Please join us for exciting evenings of discussions on local robotics and how we can help schools throughout the Florida West Coast.



## OSHA 29 CFR 1910.269 Electrical Safety Revisions

- Date:** Friday November 14, 2014
- Time:** Registration: 8:30 A.M. Seminar: 9:00 A.M. - 2:30 P.M
- Speaker:** Thomas Blair, P.E., Engineering Fellow, Tampa Electric Company
- Location:** Seminole Electric, 16313 N Dale Mabry Hwy, Tampa, FL 33618
- Cost:** Students with ID \$20, IEEE members \$100 Members , \$200 Non-Members
- PDH Credits:** 4 professional development hours will be awarded. Be sure to provide your name as it appears on your Florida license and your license number to insure proper credit. Florida Provider #0003849
- RSVP:** Online at: <http://time2meet.com/fwcs-meetings/> (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 40 registrants!!!
- Questions:** Tom Blair at 813-228-1111, ext. 48179 or [tom\\_blair@ieee.org](mailto:tom_blair@ieee.org)

### Your local IEEE PES/IAS Chapter is offering this seminar that will cover recent changes to the Code of Federal Regulations (CFR 29) 1910.269 – Electric Power Generation, Transmission, and Distribution.

The Occupational Safety and Health Administration (OSHA) published the final rule revising the Code of Federal Regulations (CFR) for power generation, transmission and distribution on April 11, 2014. The last revision was in 1994. The document is now available in the Federal Register at <http://federalregister.gov/a/2013-29579>. The document is free for download.

The document becomes law July 10, 2014, although OSHA has adopted delayed compliance deadlines for certain requirements including Fall Protection, PPE, new determination of MAD distances and arc flash hazard assessment. Substantial changes were made to the following sections of 1910.269;

- Section (a)(2) Training
- Section (a)(4) Contractors (i) Host... (ii) Contract...
- Section (c) Job Briefing
- Section (e) Enclosed Spaces
- Section (g)(2) Fall Protection
- Section (l) Working on or near exposed energized parts
- Section (m) De-energizing lines and equipment for employee protection
- Section (n) Grounding for the protection of employees
- Section (p) Mechanical Equipment
- Section (t) Underground electrical installations
- Section (x) Definitions

This seminar will review the law and will focus on sections that have been modified during this latest update to the Code of Federal Regulations.

Thomas H. Blair graduated from the University of South Florida, Tampa, Fl. in 1991 with a BSEE degree and in 2001 with a MSEE degree. He is a senior member of the IEEE. He has over 25 years of industrial and utility experience. He is currently a Fellow Engineer at Tampa Electric Company and he is a licensed Professional Engineer in the State of Florida.

Thomas has worked as an adjunct professor at the University of South Floriday and instructed courses in Electric Machine and Design & Energy Production Systems. Thomas Blair is an Engineering Fellow with Tampa Electric and works in the Generation Engineering department. He performs electrical system analysis and uses the results to specify electrical equipment ratings, protective relay settings, and electrical system arrangement. Mr. Blair is a Senior Member of IEEE.

## *PACE Presents - The U.S. Engineer Immigration Problem: Armageddon or Opportunity?*

On Wednesday evening, July 30<sup>th</sup> at TECO Hall, the FWCS PACE Group hosted a seminar on a topic that all of us need to know more about: how U.S. immigration and visa policies are affecting our engineering jobs.

Unless you've been hiding in a closet, you've probably seen all of the news stories lately about the big immigration problem that engineers are facing: low cost engineers are being permitted to come to the U.S. and you and I are at risk of losing our jobs to them. Looks pretty grim right? Somebody should do something about this, right? Well, it turns out that YOU can do something about it. You just need to find out WHAT you need to do and HOW you need to go about doing it.



Good news -- there's one person on the planet who can teach you what you need to know and we convinced him to come to town and give a talk. Russell Harrison is the Director of Government Relations with IEEE-USA. What that fancy title means is that he spends his days in Washington D.C. talking with those really important people you see on TV. He knows how they think and what it takes to get them to do what you want them to do.

This seminar was well attended with over 20 people using the online registration tool to sign up. Russell did a great job of covering a complicated topic in a way that even engineers could understand. The people who attended this seminar realized that it's time that you find out just exactly what is going on with engineer immigration, if you really have a problem here, and just exactly what steps you should be taking right now to fix things.

Join us for the next PACE seminar in September!

## *Are You an IEEE Senior Member?*

If not, you need to know that for many of you it is very easy to attain that grade. You will receive professional recognition of your peers for technical and professional excellence. And this is valuable on your résumé.

Some may be daunted by the requirement of ten years of professional practice. That is not as tough as it may seem; your educational experience is credited toward that time as follows:

- three years for a baccalaureate degree in an IEEE-designated field;
- four years if you hold a baccalaureate and masters degree;
- five years if you hold a doctorate.

So your degree gives you a kick-start towards Senior Membership. (From the IEEE page: [http://www.ieee.org/membership\\_services/membership/senior/senior\\_requirements.html](http://www.ieee.org/membership_services/membership/senior/senior_requirements.html) )

By the way, you can nominate yourself! And many Senior Member have done that. And the Section leadership will gladly help you.

For more information see last month's Signal and check the IEEE website at [http://www.ieee.org/membership\\_services/membership/grade\\_elevation.html](http://www.ieee.org/membership_services/membership/grade_elevation.html) or contact Paul Schnitzler at [paulschn@ieee.org](mailto:paulschn@ieee.org)



**COMMISSIONING AND PERIODIC MAINTENANCE OF  
MICROPROCESSOR-BASED PROTECTION RELAYS AT INDUSTRIAL AND  
UTILITY FACILITIES**

**Date:** Friday, September 12, 2014

**Time:** Registration: 10:00 A.M. Seminar: 10:30 A.M. - 1:00 P.M. (includes lunch)

**Cost:** Student with ID \$5, IEEE members \$35, \$70 Non-members

**PDH Credits:** 1.5 professional development hours will be awarded. Be sure to provide your name as it appears on your Florida license and your license number to insure proper credit. Florida Provider #0003849

**Speaker:** Craig Wester, Regional Sales Manager for GE Digital Energy

**Location:** Seminole Electric, 16313 N Dale Mabry Hwy, Tampa FL 33618

**RSVP:** Online at: <http://time2meet.com/fwcs-pes2/index.html>  
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 45 registrants!!!

**Questions:** Steve Antman at 813-523-3161 or [steveantman@gmail.com](mailto:steveantman@gmail.com)

Microprocessor-based protective relays are being used throughout industrial and utility facilities and offer the benefits of extensive metering and monitoring, which include sequence components and waveform capturing. There are two types of relay testing which is performed on microprocessor-based protective relays: (1) commission testing and; (2) routine or periodic testing. Commission testing is extensive and exhaustive and its role is to completely test the design and installation of the protective system. Routine or periodic testing is used to validate that a protective system will perform its task by verifying the relay is measuring correctly, set correctly and that it will operate its output contacts for a fault or alarm condition.

This presentation will first review the differences and functions of commission testing and routine/periodic testing. Secondly, the presentation will review methods to use the “smarts” of the microprocessor-based protective relay to detect issues during startup or during normal operation. These methods include protective relay setting comparison, minimal negative sequence current and voltage, correct power metering readings, verification/recognition of contact inputs, manual operation of contact outputs, complete control circuitry (trip, close, start, stop functions), lack of device self-test alarms, device date & time, and phasor diagrams provided by protective relay. Examples will be reviewed on the methods including an overview of symmetrical components. The presentation will discuss options of installing test switches for AC current & AC voltage isolation and use of spare relay case or chassis for bench tests/verifications. In addition, the presentation will discuss the periodic tests that should be performed on protective relay spares that are stored in your facility’s warehouse.

## *IEEE-USA Launching New Professional Awareness Experience for Students*

IEEE student members are creative people who can figure out how to solve problems and overcome challenges. IEEE-USA is seeking to build upon their creativity by launching a new professional activities program.

The Student Professional Awareness experience (SPAx) replaces Student Professional Awareness Conferences and Ventures (S-PAC and S-PAVe). A hallmark of the new program is that it leaves event design up to the students.

“SPAx opens up a lot of design choices for the students; they solve for x,” said Guru Madhavan, chair of the IEEE-USA Student Professional Awareness Committee. “Students can customize their events to meet their professional needs, expectations and interests.”

For a SPAX (pronounced “spa x”) video preview, see <http://youtu.be/oOYqf7jyFeE>.

Like the S-PACs and S-PAVes it replaces, SPAX emphasizes the non-technical skills an engineer needs to succeed. These include, among others, effective communication, leadership and career-development skills. SPAX seeks to have students explore, engage, experience.

“Students want to know: what is it like to be in the profession?,” said Ed Perkins, IEEE-USA vice president of professional activities. “So we’ve designed SPAX to support students in exploring for themselves to answer this question.”

A SPAX event can still be a traditional student-focused conference or venture, or it can be, for example, a design contest, industry visit, humanitarian field project or informal social activity focused on professional skills development. Students can choose whatever they want as long as it relates to the eight S-PAC thematic areas: career development, professional integrity, personal skills, engineers and public policy, leadership in professional organizations, the practice of innovation, the art of communication and humanitarian grand challenges.

“You can learn a lot about professional career areas outside of a conference room, which is where most of the real interactions happen,” Madhavan said. “Students can invite a local IEEE section leader or a technology expert for an informal discussion over pizza. It won’t have a PowerPoint presentation but it’s still an event.

“Our hope is that students will design and organize a lot more creative activities and report to us.”

Another goal of SPAX is to streamline the reporting and feedback process so it reduces the burden on students.

SPAX will be fully deployed in January. Students interested in organizing a SPAX event should contact their S-PAC regional coordinator: [http://www.ieeeusa.org/volunteers/committees/spac/reg\\_contacts.html](http://www.ieeeusa.org/volunteers/committees/spac/reg_contacts.html).

Check out the S-PAC Facebook page at <https://www.facebook.com/groups/ieeeusaspace/>.

If you’re interested in being a speaker or would like more information, contact Scott Grayson at [s.grayson@ieee.org](mailto:s.grayson@ieee.org).

The IEEE-USA Student Professional Awareness Committee is celebrating its 35th anniversary in 2014. It has sponsored more than 1,200 activities, reaching over 100,000 students in more than 200 U.S. colleges and universities.

IEEE-USA serves the public good and promotes the careers and public policy interests of more than 200,000 engineering, computing and technology professionals who are U.S. members of IEEE.



## ITI/GE Instrument Transformer Presentation and Plant Tour

**Date:** Thursday, October 16, 2014

**Time:** Presentation begins at 3:00 PM followed by a Tour at 4:00 PM

**Cost:** Free for Members, \$10 Non-Members and \$5 for Students  
 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**

**Speaker:** Claudio Morejon, Southeast Sales Manager for ITI/GE Instrument Transformers

**Location:** ITI/GE Plant; 1907 Calumet Street, Clearwater 33765

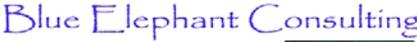
**RSVP:** Online at: <http://time2meet.com/fwcs-pes2/index.html>  
 Space limited to the first 45 registrants!!!

**Questions:** Steve Antman at 813-523-3161 or [steveantman@gmail.com](mailto:steveantman@gmail.com)

### Typical questions address in the presentation and tour:

- What is a CT and how does it work?
- How is a CT fabricated?
- How is a CT tested at the factory and what ANSI & IEEE test standards must be met?
- What is the difference between metering accuracy CTs and relay accuracy CTs?  
 Can you have one that is both?
- What is the CT thermal rating factor and what does it mean?
- What are the different kinds of CTs? ... window; split core; wound; etc...
- What is the difference in construction between a multi-ratio CT and a single ratio CT?
- Is there any time when a single ratio CT is preferred over a multi-ratio CT?
- What are the specific considerations for high voltage equipment bushing CTs?
- What are the specific considerations for low voltage (600V) CTs applied for HV applications?
- How do the standards get used – specific application examples

## Advertising Section

 <p>Unforgettable communication skills that will set your ideas free...</p>  <p><b>Dr. Jim Anderson</b> President        jim@BlueElephantConsulting.com        Phone: 813.418.6970        www.BlueElephantConsulting.com        P.O. Box 341734, Tampa, Florida 33694-1734</p>		 <p>Unforgettable communication skills that will set your ideas free...</p>  <p><b>Dr. Jim Anderson</b> President        jim@BlueElephantConsulting.com        Phone: 813.418.6970        www.BlueElephantConsulting.com        P.O. Box 341734, Tampa, Florida 33694-1734</p>		 <p>Unforgettable communication skills that will set your ideas free...</p>  <p><b>Dr. Jim Anderson</b> President        jim@BlueElephantConsulting.com        Phone: 813.418.6970        www.BlueElephantConsulting.com        P.O. Box 341734, Tampa, Florida 33694-1734</p>		
	<b>One Month</b>		<b>6 Months</b>		<b>12 Months</b>	
<b>Size</b>	Member	Non-Member	Member	Non-Member	Member	Non-Member
<b>Business Card</b>	\$25	\$33	\$120	\$150	\$210	\$252
<b>¼ Page</b>	\$40	\$52	\$190	\$238	\$335	\$402
<b>½ Page</b>	\$75	\$98	\$360	\$450	\$630	\$756
<b>¾ Page</b>	\$110	\$143	\$530	\$663	\$925	\$1,110
<b>Full Page</b>	\$140	\$182	\$670	\$838	\$1,175	\$1,410
<b>Insert / Sheet</b>	\$200	\$260	\$800	\$1,000	\$2,000	\$2,400
 <p>Unforgettable communication skills that will set your ideas free...</p>  <p><b>Dr. Jim Anderson</b> President        jim@BlueElephantConsulting.com        Phone: 813.418.6970        www.BlueElephantConsulting.com        P.O. Box 341734, Tampa, Florida 33694-1734</p> <div style="border: 1px solid black; padding: 10px; text-align: center;"> <p><b>Your advertisement here reaches over 2300 members in the local area!</b></p> </div>						

IEEE, Inc- FWCS, 3133 W. Paris  
Tampa, FL 33614-5964



Florida West Coast Section, Tampa

NON PROFIT  
ORG  
U.S. POSTAGE  
PAID  
TAMPA, FL.  
PERMIT  
No. 1197

**DATE SENSITIVE MATERIAL. DO NOT DELAY**

Change of address? IEEE Web Contact Update <http://www.ieee.org/membership/coa.html>  
Or send address changes including your name, IEEE Member number and all pertinent information to:  
IEEE, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331 or call (800) 678-4333  
Or fax your address changes to (732) 562-5445

September 2014 Calendar of Events (For more information see P. 1) *inside this Signal...*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
31	1	2 <i>EXCOM Meeting, 5:30 TECO Plaza</i>	3	4	5	6
7	8	9	10	11	12 <i>Commissioning of Microprocessor Relay Seminole Electric</i>	13
14	15	16	17	18	19	20
21	22	23	24	25 <i>PES/IAS EXCOM Village Inn - 6am SP/Comm Man- Machine Interface See page 2</i>	26	27
28	29	30 <i>Next Generation SDN &amp; ACI 5:30 TECO Plaza</i>	1	2	3	4