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# THE SUNCOAST SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.



## HAPPY NEW YEAR

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the perfect time to renew for 2014.

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[www.ieee.org/renew](http://www.ieee.org/renew) today.

**This Month's Meetings**

**Tuesday, January 7: 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**

**New Developments and Trends in the HVAC Industry**

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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:

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## New Developments and Trends in the HVAC Industry

Hosted by **Tampa Bay Trane**  
902 N. Himes Ave. – Tampa, FL 33609  
(southwest corner of W. Cypress St, behind PIP Printing)

Date: Wednesday, January 22, 2014

Time: 11:00am – 1:00pm

Lunch will be provided

Cost: \$10 Members, \$20 non-members, \$ 5 Student Members

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

Speakers: Mr. Sam Poolson, Mr. Joe Elovich, and Mr. Mike Leach

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

Space limited to the first 25 registrants!!!

Questions: Ralph Fehr at [r.fehr@ieee.org](mailto:r.fehr@ieee.org) or 813-760-7204

*The heating, ventilating, and air conditioning industry is undergoing continual advancements that impact all engineers and society in general. Come hear about some of the latest trends and technologies that have far-reaching implications. Topics to be addressed include Intelligent Energy Services (IES), new communication protocols – including wireless technologies – being used for HVAC controls, Earth Wise systems that meet Green and LEED criteria, and ice storage innovations.*

About the speakers:

**Mr. Sam Poolson** serves as a Controls Engineer (Industrial and Commercial) for Tampa Bay Trane. He is a graduate of the University of South Florida (BSEE), and has experience as an electronics engineer, wireless engineer (U.S. FCC Licenced), and a journeyman electrician (AGC and State Apprenticeship Program, non-ticket). Mr. Poolson also served in the United States Marine Corps.

**Mr. Joe Elovich** serves as a Project Engineer for Tampa Bay Trane. He graduated with a (MA Management Sciences, BA Behavioral Psychology), and has 35 years experience in the energy management and control systems field, including HVAC design, electrical systems, process controls, and field experience. Mr. Elovich is a Certified Energy Manager, Certified Energy Auditor, and Certified Sustainability Development Professional, and served in the United States Air Force. He is a former president (5 years) of West Florida Association of Energy Engineers.

**Mr. Mike Leach** serves as a Sales Engineer for Tampa Bay Trane. He is a graduate of the University of Florida (BSME), and is LEED AP certified, and has extensive experience in the energy field. Mr. Leach also served in the United States Marine Corps.

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**IEEE-USA's Free E-Books to Members Highlight How to Develop a Workable Innovation Process & Business Plan**

free to IEEE members in December.

This book, written by Gerard H. (Gus) Gaynor, teaches the fundamentals of the innovation process; presents various models with their limitations; describes the innovation design process; considers the issues in developing a process model; suggests a generic model; and describes organizing for innovation.

“Research about the process by which innovation occurs has not provided any significant insight that allows replication,” Gaynor said. “Most information is anecdotal, and that may be because the elements that drive innovation cannot be described by some linear process. ... There is no theory of innovation to guide the process.”

Some of the topics in the e-book include, “Perspectives on Innovation”; “Innovation Process Models”; “Working Toward an Innovation”; “Innovating by Design”; “Generic Innovation Process Model”; “Pre-Project”; “Market Launch”; and “Measuring Success.”

“Doing Innovation: Creating Economic Value – Book 2: Developing a Workable Innovation Process” can be downloaded at <http://www.ieeeusa.org/communications/ebooks/files/9m2nas2/Doing-Innovation-Book2.pdf> for free to IEEE members. The nonmember price is \$9.99

**IEEE-USA's Free E-Books to Members in January FREE E-BOOK**

IEEE-USA E-Books will offer “Starting Your Start-Up – Book 1: Developing a Business Plan” by Tanya Candia.

The “Starting Your Startup” series is designed for the engineer or entrepreneur who has a promising product or service idea but no real marketing expertise. Book 1 shows you how to develop an initial business plan that contains just enough information to get started. It will help you define your concept clearly and concisely, build an effective elevator pitch, communicate your product and company positioning, and identify your critical success factors.

“Starting Your Start-up – Book 1:

Developing a Business Plan” can be downloaded in January at <http://www.ieeeusa.org/communications/ebooks/files/6ni3nslk/Starting-Your-Start-Up-Book-1.pdf> for free to IEEE members. The non-member price is \$9.99.

To purchase IEEE members-only products, and to receive the member discount on eligible products, members must log in with their IEEE Web account.

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IEEE-USA E-books seek authors to write an e-book, or e-book series, on career guidance and development topics. If you have expertise in a particular area that you're willing to share for the benefit of members, email your proposal to IEEE-USA Publishing Manager Georgia C. Stelluto ([g.stelluto@ieee.org](mailto:g.stelluto@ieee.org)) and IEEE-USA E-Book Chair Gus Gaynor ([g.gaynor@ieee.org](mailto:g.gaynor@ieee.org)).

IEEE-USA advances the public good and promotes the careers and public policy interests of more than 206,000 engineering, computing and technology professionals who are U.S. members of IEEE.

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## *Engineers' Week Meeting Tour Florida Polytechnic University*

**Date:** Thursday, February 20, 2014

**Time:** 10:30am to 12:30pm

**Speakers:** Florida Poly and Skanska Representative

**Location:** Florida Polytechnic

**Cost:** Free for Members, \$10 Non-Members.

**RSVP:** Online at: <http://time2meet.com/fwcs-pes2/index.html>  
Space limited to the first 30 registrants!!!

**Cost:** \$10 Members, \$20 non-members, \$ 5 Student Members  
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  
**Questions:** Ralph Fehr at 863-834-6511 or [serge.beauzile@lakelandelectric.com](mailto:serge.beauzile@lakelandelectric.com)

**What is that building resembling a spaceship south of Interstate 4 near Lakeland?** That building is the Innovation, Science & Technology Building, the centerpiece of the campus for the newest member of the Florida State University System – **Florida Polytechnic University!**

Florida Poly and Skanska representatives will present an overview of the new Science, Technology, Engineering, and Mathematics (STEM) University and provide a behind the scenes tour of the Innovation, Science, and Technology building. Cryogenic air separation utilizes the differing condensing/boiling points of the components of air to enable separation by distillation at cryogenic temperatures. At atmospheric pressure the main components of air have the following condensing/boiling points:

### **Driving directions from Tampa:**

The Florida Poly campus can be accessed from either I-4 Exit 41 to the SR 570 (Polk Pkwy) or I-4 Exit 38 to SR 33. The address is 4700 Research Way, Lakeland, Florida 33805. Follow the Florida Polytechnic Event signs to the meeting location. Research Way is accessed off of University Boulevard from either SR 33 or SR 570 (Polk Pkwy).

Florida Polytechnic University became the state's twelfth public university on July 1, 2012. Classes will start in August 2014, focused heavily on the STEM disciplines with degree programs in Engineering and Technology. Interdisciplinary degrees targeted at industry needs are just the beginning of the innovation you will see at this informational meeting, followed by a tour of the new campus, including the iconic 100,000 sq. ft. Science and Technology building, designed by world-renowned architect Santiago Calatrava. Don't miss this timely opportunity to see the beginning of the Florida's only public polytechnic university.



**Now extended through February 28th, 2014**, IEEE Membership and IEEE-USA are running a special offer for US members.

Refer a colleague to IEEE and for every new member recruited to join:

- **You** will receive your **choice of an IEEE-branded gift item.**
- **Your referral** will receive a **\$25 discount** off their first year membership.
- There is **no limit** to the number of new members you can refer or gift items you can receive.
- All existing Member-Get-a-Member incentives will still apply.

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Your referral will receive an email inviting to them join IEEE at a \$25 discount off their first-year membership dues

- Your referral will provide your IEEE member number as they join.
- Within 3-4 weeks after your referral joins, you will receive an e-mail confirming your recruiting success, including a link which allows you to select your IEEE-USA merchandise item
- You will receive a separate e-mail for each new member.

Please help spread the word and share your IEEE experience—no one knows better than you how beneficial IEEE membership is.

**Refer your friends and colleagues today!**

Examples of some of the branded gift items that will be offered include:

- Laptop backpack • Cinch-top backpack • Roller Ball Pen • Combo Tablet/Smart Phone Case • Mechanical Pen & Pencil Set
- Rechargeable Bluetooth Speaker • Portable USB Speaker • Baseball Cap • Universal AC/USB Travel Charger Kit • Golf Balls • Dual-Powered Solar/USB Portable Battery Charger

Not Pictured: Golf Umbrella • Insulated Travel Mug







## *IEEE FWCS SP/Comm Chapters*

### *Phase Noise & Jitter Measurement*

**Date:** Tuesday January 21<sup>st</sup>, 6 PM

**Location:** Largo STAR Center (Planning Center Room) Corner of Bryan Dairy and Belcher

7887 Bryan Dairy Road Largo, FL 33777

**Abstract:** Jitter is one of the most important measurements in modern digital systems. In this talk we will discuss current methodologies used to measure jitter with oscilloscopes as well as new techniques that can improve the accuracy and reliability of these measurements.

- Phase noise and its relationship to jitter
- Basic time domain jitter measurements
- Relating jitter to bit error ratio in digital systems
- Timing measurements using digital oscilloscopes
- Modeling jitter PDF and CDF to predict long term performance
- Limitations of current measurement methods
- Methods for improving measurement repeatability and throughput
- Measurement demonstration

**Speaker:** **Michael Schnecker** is a business development manager at Rohde & Schwarz specializing in digital applications. Mr. Schnecker holds an MSEE from The Georgia Institute of Technology and has 24 years of experience in a wide variety of measurement applications including communications and jitter and timing.

**Organizer:** For more specific information please contact Chris Lambrecht (e-mail: [chris.lambrecht@ieee.org](mailto:chris.lambrecht@ieee.org), Ph: (727)458-9061)

Cost is \$2 for IEEE Member and \$4 for Non Members.

Food and beverages will be provided. Please sign up at:

**Reservations:** <http://time2meet.com/fwcs-mtt/index.html>



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**IEEE Florida West Coast Section**  
**Louise & Thelma Wallace Foundation Student Scholarships**

The IEEE Florida West Coast Section (FWCS) has received a donation from the **Louise and Thelma Wallace Foundation**. The Section will be offering 10 to 20 Student Scholarships from these funds. These scholarships will be between \$250 and \$500 each and will be based, in part, on the following. The student:

- Must be a current FWCS IEEE Student Member (i.e., attend college in the FWCS geographic area, have an IEEE Membership Number, be current on all dues payments, etc.)
- Must be a Junior or higher in an ABET accredited university
- Credit will be given for volunteer and community work (i.e., IEEE Volunteer, community volunteer, etc.)
- Submittal of a write-up of the reasons you believe that you desire this scholarship (250 words maximum)

Please send your submittal to attention to Serge Beuzile at [serge.beuzile@ieee.org](mailto:serge.beuzile@ieee.org)

**Submission deadline Friday January 17, 2014**  
**Award Winners will be announced during Engineering Week**

Your submission will be evaluated by a panel of judges composed of:

Serge Beuzile	IEEE Florida West Coast Chair
Jim Howard	IEEE Florida West Coast Treasurer
Dr. Andrew Huff	IEEE Florida West Coast Student Branch Advisor
Dr. Paul Schnitzler	IEEE Florida West Coast Student Branch Advisor



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

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29	30	31	1	2	3	4
5	6	7 <i>IEEE EXCOM TECO Plaza 5:30pm</i>	8	9	10	11
12	13	14	15	16	17	18
19	20	21 <i>Phase Noise &amp; Jitter Measure- ment, 6pm</i>	22 <i>Tour of Trane 11am</i>	23	24	25
26	27	28	29	30 <i>PES/IAS EXCOM Village Inn 6am</i>	31	1