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Polk, and Sarasota Counties



# THE SUNCOAST SIGNAL

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

**Volume 60— No. 7** <http://www.ieee.org/fwcs> **July 2015**



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***This Month's Meetings***

***Tuesday, July 7: EXCOM Meeting, 5:30PM at TECO Plaza***  
***Register online at <http://time2meet.com/fwcs-excom/index.html>***

***Open to all FWCS Members***

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## Tour Matheson TriGas Air Separation Systems

**Date:** Friday, July 24, 2015

**Time:** Site Visit: 11:00am-1:00pm

**Host:** Frank Prystash, ASU Plant Manager

**Location:** 2500 Combee Road Lakeland Florida

**Cost:** Cost: \$10 Members, \$20 Non-Members, Student IEEE Members free with Student ID

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

**Space limited to the first 15 registrants!!!**

**Questions:** Serge Beauzile@863-834-6511 or Serge.Beauzile@ieee.org

Air separation is the most common process used to extract one or all of the main constituents of atmospheric air. The three main components are Nitrogen (78.1%), Oxygen (20.9%) and Argon (.9%). The remaining gases in the air are in trace amounts and normally not recovered. In very large air separation units (ASU) Neon, Xenon and Krypton are recovered in small amounts.

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:

- Nitrogen -320F
- Oxygen -297F
- Argon -308F

Since air is a simple mixture, liquefying and distilling air provides a process to successfully separate the Nitrogen, Oxygen, and Argon. All ASU's use this process.

### *Your IEEE Florida West Coast Section Needs your Help!*

We are looking for a volunteer who want to invest just a few hours a month to be the new Signal Editor. Basic word processing knowledge and willingness to Help!

*Please participate in your section success!*

<p><b>Wayne Ellis</b> President</p>		<p><b>Steve Antman</b> Sales Engineer Cell: 813-523-3161</p>
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**Are you willing to make the next Step to Senior Membership?**

**Date:** 8/04/15

**Time:** 5:30 pm to 7:30 pm

**Location:** TECO Hall North, 702 N. Franklin Street, Tampa, FL 33602

**COST:** FREE

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

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

The Florida West Coast Section is looking to assist those individuals for have been involved in engineering for over 10 years apply for Senior Membership. We will be holding a Senior Membership Roundup to assist individuals who are eligible complete the nomination forms and connecting them with Senior Members who can assist in the reference requirements.

If you know of someone who you feel is qualified then please encourage them to sing up for this event. If you have desired to become a Senior Member but not sure what to do or need references then please register for this event and your Section can help in making the next steps towards Senior Membership. Those that register will be contacted to ensure they know what is needed for the nomination process.

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.

*(Continued on page 4)*



**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.**

## **Benefits of Senior Membership**

**Recognition:** The professional recognition of your peers for technical and professional excellence.

**Senior member plaque:** Since January 1999, all newly elevated senior members have received an engraved Senior Member plaque to be proudly displayed for colleagues, clients and employers to see. The plaque, an attractive fine wood with bronze engraving, is sent within six to eight weeks after elevation.

**US\$25 coupon:** IEEE will recognize all newly elevated senior members with a coupon worth up to US\$25. This coupon can be used to join one new IEEE society. The coupon expires on 31 December of the year in which it is received.

**Letter of commendation:** A letter of commendation will be sent to your employer on the achievement of Senior member grade (upon the request of the newly elected Senior member).

**Announcements:** Announcement of elevation can be made in section/society and/or local newsletters, newspapers and notices.

**Leadership Eligibility:** Senior members are eligible to hold executive IEEE volunteer positions.

**Ability to refer other candidates:** Senior members can serve as a reference for other applicants for senior membership.

**Review panel:** Senior members are invited to be on the panel to review senior member applications.

**US\$25 referral coupon:** Newly elevated senior members are encouraged to find the next innovators of tomorrow and invite them to join IEEE. Invite them to join and the new IEEE member will receive \$25 off their first year of membership.

If you are interested, you can submit your application online at; [www.ieee.org/seniormember/](http://www.ieee.org/seniormember/) and select “Apply for senior membership” from the menu on the left. If you need references, please send your IEEE number and resume to [tom\\_blair@ieee.org](mailto:tom_blair@ieee.org) (please put “**IEEE Senior Membership Reference**” in the subject line) where we have many local IEEE volunteers that will be glad to provide a reference for you.



## ***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 will be available via the IEEE online conference registration Web site during the summer of 2015.

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

# WANTED: STRATEGIC SALES ASSOCIATE

---

Beckwith Electric Co., Inc., located in Largo, Florida, is a leading manufacturer of innovative high quality products, technical services and solutions for the electric utility industry.

*You are an Inside Sales professional in the power electrical industry, or closely related fields of industrial communications or process control, and wish to take things to the next level. Bored with quote creation and addressing routine price and delivery issues, you seek a challenge in collaborating on and implementing strategies to help increase sales. You want to grow from tactical to strategic.*

## Your Background:

- Background in electrical power with Utility and/or Industrial systems.
- Inside Sales experience
- Fearless phone and writing skills. You are not afraid to make the communications on behalf of the Regional Managers you support.
- Ability to support a dynamic group of Regional Sales and Application Managers

## Our Needs:

The Strategic Sales Associate (SSA) will “Shadow” each Regional Sales Manager (RSM) and their Regional Sales Representatives (REPs), provide follow-up support for RSMs and REPs, and under the direction of the RSM, follow up targeted opportunities (HotOps) determined by the RSM jointly with the SSA, respond to customer requests, follow up on progress of HotOps and maintain a HotOps tracking system (CRM).

- Proactively assist in and organize follow-up of HotOps with targeted customers.
- For targeted customers identified by the RSM, communicate by phone and e-mail to qualify leads.
- Coordinate with Engineering, Customer Technical Sales, and Sales Representatives to assure follow-through of “next step” requirements to move the HotOp toward the goal.
- Complete action items from customer contact reports submitted in RSM’s territory by RSM or special teams called into the territory. Completion may be achieved through SSA individual effort and/or by coordinating efforts of RSM, REP or other support elements at the home office.
- Ensure demo products get into the hands of customers requesting same in a timely manner. Follow demo unit progress.
- Pursue projects to ensure that efforts are progressing toward a sale.
- Under the direction of the RSM, follow-up with Reps and Customers as well to assist in advancing and/or closing a sale.
- Work to eliminate internal obstacles at the home office to keep the ball rolling.
- Work to overcome targeted customer technical and business objections.
- Learn and promote product “Gold Nuggets” and “Hair on Fire” performance characteristics.
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- Pursue with our Customer Technical Support Team investigation and resolution of customer problems with deliveries.

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## *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>

- 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



## Precision Measurement Techniques – Linear Technology

**Date:** July 30, 2015

**Time:** 6:30 pm

**Location:** *Largo STAR Center, Corner of Bryan Dairy and Belcher  
7887 Bryan Dairy Road, Largo, FL 33777*

**Cost:** *\$4.00 Members; \$6.00 Non-Members; \$2.00 for Student IEEE & Life Members*

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

**Food and Beverages will be provided.**

**Questions:** *Chris Lambrecht ([chris.lambrecht@ieee.org](mailto:chris.lambrecht@ieee.org)) or 727.458.9061*

**Abstract:** The talk will focus on Precision Measurement Techniques featuring the LTC2983 Temp to Bits Converter.

**Speaker:** **Todd Felege**, the Linear Technology Field Application Engineer, will be our guest speaker going over some of their latest parts and software support tools.

He has a BSEE from the University of New Hampshire. His specialty during school was Analog electronics including VLSI and IC layout techniques. He began at sixteen working in video editing electronics as a technician and PCB layout specialist for about five years. He then worked in the space science group helping in the design and implementation of satellite instrumentation for the analysis of the solar wind and cosmic radiation. This included time of flight mass spectrometry and gamma telescope work. The next twelve years were spent in the aerospace industry where he was involved in the architecture, design, and implementation of all types of avionic equipment from integrated displays to inertial and radio navigation. The last four years has seen Todd as the FAE for Linear Technology Corp. in Florida.



### *About IEEE Spark*

*IEEE Spark* is an online publication intended to inspire students ages 14-18 to learn more about engineering, technology, and computing, and raise excitement about careers in these disciplines. *IEEE Spark* features articles on technological innovation, university preparation tips, professional career profiles, at-home activities, comics, and more! *IEEE Spark* is brought to you by IEEE with generous funding from the IEEE New Initiatives Committee.

<http://spark.ieee.org/>

## Super Capacitors

**Date:** Tuesday August 20<sup>th</sup>, 6:30 PM

**Location:** Largo STAR Center Corner of Bryan Dairy and Belcher  
7887 Bryan Dairy Road Largo, FL 33777

**Abstract:**

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

**Additional Information:**

Kemet test procedures for customer evaluations:

<http://www.kemet.com/Lists/FileStore/KEMET%20Supercapacitor%20Test%20Procedures%20for%20Customer%20Evaluations.pdf>

Frequently asked Questions:

<http://www.kemet.com/Lists/FileStore/KEMET%20Supercapacitor%20FAQ.pdf>

Kemet website for super capacitors:

<http://www.kemet.com/supercapacitors>

**Speaker: Hector Nieves –**

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

Ten 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](mailto:chris.lambrecht@ieee.org), Phone: 727-458-9061

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

Food and beverages will be provided.





*Upcoming joint meeting of Consultants Network Affinity Group and Computer Society to take place July 28*

**DeVry University, Room 210 6:00 p.m.**  
5540 W. Executive Drive, Suite 210  
Tampa, FL 33609

Questions: *Herman Amaya* at 727-543-1308, or [hamaya@tampabay.rr.com](mailto:hamaya@tampabay.rr.com)

Getting High Technology Business with the Federal Government on a Shoestring –  
A Case Study of Mountain Wave, Inc.

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The IDEA - Starting with good skills and no ideas. But figuring it out as you go.  
The PROBLEM - Incorporating was the easy part, now how to you get somebody to pay you.  
The SOLUTION - The Federal Government has money for small businesses...why not us.  
The RESULTS - OK...that worked...now what.  
The LESSONS LEARNED - \$20M later... If we had to do it again, what would we do different.



*Advertising Section*

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

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	29	30	1	2	3	4
5	6	7 <i>EXCOM Meeting, 5:30 TECO Plaza</i>	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24 <i>Matheson Gas Plant Tour - 11am</i>	25
26	27	28 <i>Joint meeting of CNAG and CS @ DeVry University 6 p.m.</i>	29	30 <i>PES/IAS EXCOM Village Inn - 6am</i>	31	1