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February 2009



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This Month's Meetings

February 3rd: EXCOM Meeting

Meeting starts at 5:30PM At TECO Plaza

Register online at http://time2meet.com/fwcs-excom/index.html
Meeting is open to all FWCS members and guests

Signal Processing and Communications Society Joint Meeting

Date: Tuesday 17 February 2009 Time: 5:30 pm Location: TECO Hall 702 N Franklin Street, Tampa, FL 33602 See page 4

Engineering Week Lunch and Learn Seminar

Date: Tuesday 17 February 2009
Time 12 noon at TECO Hall
702 N Franklin Street, Tampa
See page 9

Tampa Bay Engineering Banquet 2009 iday February 20, 2009 at the Tampa Bay Grand Hyd

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All material for THE SUNCOAST SIGNAL is due in electronic form by 1st

Friday after the 1st Tuesday of the month preceding the issue month.

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This Month... (Editor's Column)

The month of February is looking like it will be full of events of interest to FWCS. First is the Tampa Bay Engineers Week Banquet on February 20th. I have attended the last three Celebrate Engineering Banquets and I was never disappointed in the program. The Keynote Speakers each had interesting and informative presentations. The first was the President of Odyssey Marine, the treasure salvage company and he spoke about what they do. The following year was a program manager from NASA and his presentation was about the Mars Rovers and future plans of the Agency. Last year, the keynote was from the manager of the Port of Tampa and what is going on there. If you haven't been to this event, I can highly recommend it.

The next event(s) is a joint AESS/PACE event on how to become a consultant and the presenter is Dr. Gary Blank. I have heard his presentation once before and it was informative. The introduction to consulting will be at CDB Pizza on the 19th and the food there has never disappointed! There is the longer program on the 21st. Details on both event are elsewhere in this issue of the Signal





IEEE-USA Annual Meeting

"Engineering the Alternative Energy Debate" in Salt Lake City, UT February 26-March 1, 2009

www.ieeeusa.org/calendar/conferences/2009annualmeeting



Judges for County Science Fairs

Doing Our Part for the Next Generation of Engineers and Scientists: IEEE FWCS Members are Uniquely Qualified to Judge County Regional Science Fair

IEEE FWCS members have a special opportunity to encourage the next generation of scientists and engineers by serving as judges for County Regional Science Fair. The science fair judging is very well organized. The folks who run the fairs make it easy for new judges to participate with confidence. Many FWCS members have served as judges in the past. Among them are Richard Beatie, Quan Tang, Sean Denny and Ralph Painter. It is always a lot of fun and amazing to see what the next generation is up to.

One of the upcoming Science Fairs is the Hillsborough County Science Fair at the USF Sundome on February 25th. For this Fair, judges should arrive at 11:00 a.m. for the organizational meeting and lunch. Judging is from noon to 4:00 p.m. Please register in advance by contacting Dena Pisaneschi, Chairperson, Regional Junior/Senior Judging at (813) 558-1180 or at dena.pisaneschi@sdhc.k12.fl.us.

If you know of other County Science Fairs in the Florida West Coast Sections Counties, or if you have or are helping judge these Fairs, please let us know and we can place articles in the Signal about the Fairs and assist with getting judges. Thank you for the opportunity to encourage the next generation of scientists and engineers.

Ralph Painter



Region 3 Awards Presented at SoutheastCon

Hi Evervone.

At our Region 3 ExCom Meeting, 12 January 2008, the following recipients were selected for the Region 3 Awards to be presented at SoutheastCon:

Dick Riddle (<u>r.riddle@ieee.org</u>) - Daniel Jackson Director Award

Paul Schnitzler (pauls@eng.usf.edu) - Region 3 Joseph M. Biedenbach Outstanding Engineering Educator Award Grayson Randall (grayson@insightracing.org)- Region 3 Outstanding Engineer Award

G. Thomas Bellarmine (tbellarm@cis.famu.edu) - Region 3 Outstanding Service Award

Please join me in congratulating our award recipients! William B. Ratcliff, IEEE Region 3 Director 2008-2009 912-356-5379(H,O) 912-210-1759(mobile e-mail w.ratcliff@ieee.org



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FWCS SunCoast Signal February 2009







Signal Processing and Communications Society Joint Meeting

Strategies in Software Defined Architecture for Design, Development and Testing of RF and Wireless Communications Products

Speaker: Joe Svoboda – National Instruments

Summerville, South Carolina USA **Date:** Tuesday 17 February 2009

Time: 5:30 pm

Location: TECO Hall

702 N Franklin Street, Tampa, FL 33602

For driving directions, contact Hector A. Martinez at abelhect@hotmail.com

ABSTRACT: In this session you will explore tools engineers are using to design, develop, and test emerging RF and wireless communications products in this rapidly growing and changing market. You will see the latest strategies in software defined architecture, for minimizing cost, and increasing speed and flexibility. You will see how virtual instrumentation (synthetic instrumentation), leverages a modular approach to speed test development time in characterization, validation, and verification of wireless transceivers. You will see real-world case studies from companies like Microsoft, Harris Communications, and Raytheon, who are leveraging this platform to improve throughput, and decrease test time for high speed automated test systems for design and production.

BIOGRAPHY: Joe Svoboda attended Kansas State University and graduated from the Engineering Honors Program with a B.S. in electrical engineering, specializing in communications systems and signal processing, and with a minor in business. Joe began his career with National Instruments in the Applications Engineering Department, providing key customer support. Today, as the RF and communications business development manager for National Instruments in the eastern United States, Joe Svoboda, with a proven track record has assisted customers in industries, such as, military, aerospace, consumer electronics, and cellular in implementing their test and measurement systems. Joe recently presented and provided training to the FCC on Radio Spectrum Monitoring and Measuring.



IEEE RFID 2009, Orlando, FL, April 27-28, 2009

The 2009 International IEEE Conference on RFID addresses key topics and issues related to RF-based identification and communication systems, and will feature keynotes, presentations on technology advances and panel discussions on pressing topics. IEEE RFID 2009 is the third annual conference that brings together researchers and practitioners from both academia and industry to share research results and knowledge in the areas of RFID technologies, their supporting large-scale distributed information systems and their applications.

Once again co-located with the RFID Journal LIVE! 2009 tradeshow and conference, attendees and presenters alike benefit. Authors are invited to submit full 8-page papers in the IEEE conference format presenting new research related to the theory and practice of RF-based identification and communication systems. All submissions must describe original work not previously published or currently under review for publication in another conference or journal. To find out more about the topics to be discussed go to the link below.

For more information go to http://www.ieee-rfid.org/2009/





Tampa Bay Engineers Week Banquet

Friday-February 20th, 2009

-Engineers-

WORLD OF DIFFERENCE! Come Spend an Evening in Elegance with New

Friends

For 'Engineers Week 2009', the engineering societies of the Tampa Bay area are proud to host the first annual Tampa Bay Engineers Week Banquet on Friday, February 20, 2009, at the spectacular Tampa Bay Grand Hyatt (2900 Bayport Drive, Tampa, Florida, 33607)

The banquet will be a collaboration between the societies that arranged the Celebrate Engineering Banquet and the E-Week Banquet in past years. The merger of these two events will bring together Engineers from all disciplines from all around Tampa and Florida's west coast.

This premier event brings together local leaders and engineering professionals to recognize the outstanding achievements of Engineers, Science Teachers, Math Teachers, and Students in our community.

Be sure to show up early to enjoy networking and our vendor's booths in the Reception area!



Banquet Keynote Speaker

Ms. AnnMarie Spexet P.E., Engineers Without **Borders**

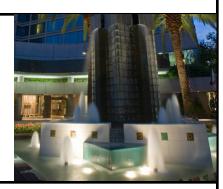
Engineers Without Borders USA (EWB USA) is a non profit humanitarian organization established to partner engineers and engineering students with developing communities worldwide in order to improve their quality of life through implementation of sustainable engineering projects. Ms. Spexet will discuss the history and projects of EWB, as well as the chord it struck with engineers as it sprouted chapters across the United States, including the Tampa area (www.ewb-scfl.org) and USF-Tampa (www.ctr.usf.edu/ewb/).

Who: Engineers of Florida's West Coast, Family and Friends

Where: The Tampa Bay Grand Hyatt, 2900 Bayport Drive, Tampa, Florida Vendor Expo and Cocktail Reception (Cash Bar) 5:30pm – 7:00pm Time: Dinner, Speaker, Awards 7:00pm - 10:00 pm

\$55 per person Cost: RSVP: Register online at:

www.tbewb.org



This Tampa Bay Engineering Banquet is a joint event co-hosted by the following professional organizations

















Brain Teaser Challenge Solution - November 2008 Butch Shadwell

Last time I was discussing a hair drying emergency I saw on a reality TV show. It involved running a hair dryer on a battery power inverter. "This inverter produced a 60 Hz sine wave at 120 vrms, 15A max. The instructions said that it will not handle loads with a PF less than 0.9. If the hair dryer says that it draws 1000W or 1200 VA, will the inverter carry the load? For extra credit what is the angle between the current and voltage waveforms on this appliance?"

First, in the phasor diagram the VA value forms the hypotenuse of a right triangle and the watts is the adjacent side of the phase angle. So PF = watts/(VA) = cos(phase angle). So the power factor is 1000/1200 which is 0.83, and the arccosine of 0.83 is 33.6 degrees. I guess the girls had to let their hair dry the old fashioned way. But I bet you already knew that.

Brain Teaser Challenge - December 2008

When I was a kid I used to dream about being one the first humans on Mars. I figured the moon would have been done before I was ready to go up. It seems that I am quickly getting too old for the Mars trip too at this point. Oh well, I can still imagine what it would have been like. Travelling to Mars poses so many difficult problems, not the least of which is shielding the passengers aboard the spaceship from solar radiation. If there should be a major solar flare in the direction of the ship while we were in interplanetary space the crew could easily be exposed to a lethal dose of radiation.

So just in case NASA calls me to design a radiation shield for the interplanetary vehicle, I thought I would do a few calculations. We know that the earth is protected from the solar wind (charged particles from the sun) by the earth's magnetic field. Over most of the planet, these magnetic lines of force (the B field) run roughly parallel to the surface of the planet north to south, except at the magnetic poles where the lines of force originate and terminate. If a positively charged particle approached the earth from the sun, would it tend to be deflected to the east or the west? Maybe we could put a big bar magnet in our space craft to help protect the occupants.

Reply to Butch Shadwell at b.shadwell@ieee.org (email), 904-223-4510 (fax), 904-223-4465 (v), 3308 Queen Palm Dr., Jacksonville, FL 32250-2328. (http://www.shadtechserv.com) The names of correct respondents may be mentioned in the solution column.



Full Day, Six Hour Consulting Seminar

How to Start and Expand a Consulting Practice Sponsored by the AESS, Computer Society and PACE Saturday, Feb 21, 2009 9am to 4pm

Learn "How to Start and Expand a Successful Consulting Practice". The place will be determined and shown on the registration web site soon. It will be in the Tampa Bay area. Go to http://www.time2meet.com/fwcs-meetings This Saturday six-hour seminar is for those who have been consulting and would like to expand their practices, and for those who are starting or considering starting and want to learn how to build a successful practice rapidly, how much to charge, how to find clients, etc. It is a how-to seminar. We start at 9 am and end at 4 pm with an hour for lunch from 12 to 1 PM that is included in the fee.

The AESS is sponsoring a special price for IEEE members which is \$150 including e lunch and all handout materials. The price for unemployed IEEE members is \$100. The price for non-members is \$345. Please register early by February 10 or these fees increase by \$25. Register at http://www.time2meet.com/fwcs-meetings/ or contact Jim Lumia if you join IEEE to get the special IEEE member pricing.

Email JLumia@ieee.org or call (813) 832-3501. Space is limited so register or call early.

You will need to pay by check or cash. Make out your check to IEEE FWCS. Please read the Speaker/Instructor bio on page 7 to learn more about Dr. Blank.



Dinner Meeting - AESS, Computer Society, and PACE Members

Thursday, February 19, 2009. Social time starts at 6:00 pm

Topic: Introduction on How to Start and Expand a Consulting Practice

At the Feb 19, 2009 Thursday evening dinner meeting, the purpose is to enlighten the IEEE section, members and guests about how a consultant network is started and structured and built, and how the members and the Network are integrated with other Networks and members in the world of IEEE. The talk emphasizes the role and responsibilities of the Section and the role and responsibilities of the Consultants Network.

This is an open meeting. Also take advantage of a chance to become a consultant or improve your consulting career and network with fellow engineers have an excellent dinner at CDB's Southside Italian Restaurant in South Tampa. You may order salad, soup, entree, sides, and desert from the special menu for only:

\$15 for IEEE members.

\$25 for guests of members.

This is a great opportunity to network, have a good time and improve your engineering career.

The Meeting will be held at:

CDB's Southside Italian Restaurant

3671 S. West Shore Blvd.

Tampa, FL 33629

Phone: 813-805-2327

Please RSVP online at http://www.time2meet.com/fwcs-meetings/

Select "Make a Reservation", then "View Attendees List" to check your reservation.

Contact Jim Lumia to join IEEE or add AESS to your IEEE membership and get your dinner free. JLumia@ieee.org (813)832-3501. http://ewh.ieee.org/r3/floridawc/membership.html

If you have problems registering on this web site, please

email your registration information to JLumia@ieee.org.

DR. GARY L. BLANK is the speaker for the Introduction and will be the Instructor for the six hour course

Dr Gary Blank is a Senior Member of the IEEE and the founding chairman of the IEEE Consultants' Network of Chicago/Rockford. He is the past Chairman of the Coordinating Committee of the Alliance of IEEE Consulting Networks and is responsible for the start-up of over 20 IEEE Consultants Networks in both the USA and overseas. He currently consults full-time in industry in Electronics, Power, and Control Systems. In the seminar he illustrates how to keep your present job and launch and grow a successful part-time consultancy. This seminar for engineers, scientists, and other professionals has been held throughout the United States and Canada.



IEEE Celebrates 125 Years of Engineering the Future in 2009

The start of 2009 marked the official kickoff of IEEE's 125th Anniversary celebration. IEEE is commemorating this milestone with a variety of activities surrounding the theme of Celebrating 125 Years of Engineering the Future. The official 125th anniversary mark is already visible on ieee.org, and is being used on IEEE publication covers and other materials throughout the year. The latest anniversary information is available on www.ieee125.org.

Major anniversary events include the first IEEE Presidents' Change the World Competition for college and university students worldwide; a global media roundtable and webcast addressing emerging, world changing technologies on 10 March in New York City; Engineering the Future Day on 13 May and a series of celebrations in major world cities throughout the year: Volunteers are asked to encourage their OUs and IEEE members to plan their own local events and celebrations. All 125th events should be posted to the calendar on the IEEE 125th Anniversary Web site, at http://www.ieee125.org/celebrate/events/calendar/index.html









IEEE Standard 241 - Recommended Practice for Electric Power Systems in Commercial Buildings

FWCS IEEE Color Book Seminar Series

Space is limited to 45

Date: March 27, 2009 Cost: \$125 IEEE Member / \$155 IEEE Non member

Time: 9AM-4PM Includes lunch.

Speaker: Frederick Brockhurst, P.E. RSVP: http://time2meet.com/fwcs-pes1/index.html

Location: Executive Conference Room

Make checks payable to: IEEE FWCS

Seminole Electric Company

Pay at the door or send checks to:

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Tampa, Florida

30612 Nickerson Loop

Wesley Charal, El. 3354

Wesley Chapel, FL 33543 Attn: Dr. Paul Schnitzler

Questions? Contact Jeff Basiaga at 813-541-5758 or jeff.basiaga@stantec.com

Your local IEEE PES/IAS chapter is offering this seminar on IEEE Std 241 - Recommended Practice for Electric Power Systems in Commercial Buildings (The Gray Book) as part of a series of seminars based on the IEEE Color Books.

Please come and benefit yourself and the industry with this excellent class – sellout attendance is key to continue bringing the color book guest speakers here to Tampa Bay.

The IEEE Gray Book provides extensive information on each of the various specialized subjects involved in planning the power system of a new or modernized commercial structure. This comprehensive source will alert the electrical engineer or designer to the many problems encountered in designing electrical systems for commercial buildings. Extensive information is presented on many different aspects of electrical systems. Information is given on load requirements, voltage considerations, power sources, and distribution systems from the point of view of power distribution. Once power enters the commercial facility, other issues such as services, vaults, electrical equipment rooms, wiring systems, system protection and coordination, lighting, and electric space conditioning become pertinent, and are addressed. Additional issues associated with the commercial facility covered in the IEEE Gray Book include transportation, communication systems planning, facility automation, expansion, modernization, rehabilitation, special occupancy requirements, and energy management.

Speaker Bio: Frederick C. Brockhurst, P.E. is a Life Senior Member of the IEEE and has been actively involved with the Industry Applications Society since 1975. He joined the U. S. Air Force after graduating from high school in his home town of Parma, Ohio. He completed his BSEE, MSEE, and PhD degrees at University of Missouri – Columbia while serving in the Air Force. His final assignment was teaching at the Air Force Institute of Technology and doing research and development work for what became known as the Star Wars Program. Fred retired from the Air Force in 1981 and joined the faculty at Virginia Tech, then later joined the faculty at Rose-Hulman and moved to Terre Haute, IN. During his tenure at Rose-Hulman he was responsible for developing an electrical engineering curriculum that has become the model for the national accreditation of electrical engineering programs.

Since his retirement from Rose-Hulman in 2003, Fred has been operating Brockhurst Engineering, Inc. from his home in Terre Haute. The largest part of his practice is analysis of electrical safety (Arc-Flash hazard analysis) for industrial and commercial electric power systems.



Engineering Week Lunch and Learn Seminar

Outage Management System, Lesson Learned following Major Disturbances Tuesday February 17, 2009 @ 12:00 PM TECO Hall

Vinny Crooks

Sr. Energy Delivery System Support Specialist

Progress Energy

Vinny has worked for Progress Energy Florida since 1992. He began his efforts with Nuclear Generation developing and supporting various applications. In 2002, Vinny joined ranks with the Distribution organization and began overseeing their Outage Management System and the Mobile Workforce systems.

Claude Pitts

Sr. Engineer Technical Support Specialist

Progress Energy

Claude has worked for Progress Energy Florida since in 1983. He began in the Line Department as a Groundman and later became a Shift Supervisor. Now he works in the Grid Management group at the Distribution Control Center supporting their technology systems.

For more information Call Serge Beauzile 727-409-1242

Cost: \$10

You can register using http://time2meet.com/fwcs-pes4/index.html



What IEEE Membership Has Meant to Me

BY FASIH AHMED MASOOD

It has been 13 years since I joined the IEEE student branch at NED University of Engineering and Technology in Karachi, Pakistan. Through my volunteer work as a student, as a member of the IEEE Graduates of the Last Decade group, and as an IEEE senior member, I have come a long way in developing my soft skills and, in the process, have formed many long-lasting relationships. IEEE has helped enormously in all aspects of my career, first in Pakistan and now in Canada.

LESSONS LEARNED I immigrated to Toronto in 2005 and now work as a computer-systems engineer for the BMO Financial Group's network planning and vendor management department. The IEEE Toronto Section introduced me to other professionals and gave me opportunities to get involved with a number of volunteer projects. And through the people I met, I was able to find references to support my application for senior member, to which I was elevated in May 2008. As chair of my section's Industrial Relations Committee, I represented the section at the Sections Congress, held in September in Quebec City

SOFT SKILLS Volunteering to run an IEEE section or chapter helps refine your communication and problem-solving skills as you plan and lead conferences, seminars, workshops, and other events. Such efforts provide valuable experience in people and relationship management. The skills are extremely important in the professional world, where members add value if they can blend their technical and soft skills.

IEEE brings people from diverse geographic, educational, and ethnic backgrounds under one big umbrella, and enables them to work toward a common goal. IEEE is truly a global organization in a world that is becoming "flatter" day by day.

Masood is chair of the Toronto Section's Consultants Network Affinity Group. To read more about him, visit http://www.fasih-masood.com or http://www.fasih-masood.com or http://www.ewh.ieee.org/r7/toronto/executive/fmasood.htm

For the complete article, go to http://bmsmail3.ieee.org:80/u/13984/04215844



February 2009 Calendar of Events (For more information see P. 1) inside this Signal...

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3 EXCOM Meeting at TECO See page 1	4	5	6	7
8	9	10	11	12	13	14
15	16	17 Lunch & Learn See page 9/ Signal Processing See page 4	18	19AESS Consulting Introduction see page 7	20Tampa Bay Engineering Week, see page 5	21AESS Consulting Seminar see page 6
22	23	24	25	26	27	28
1	2	3	4	5	6	7

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