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THE

SUNCOAST

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This Month's Meetings

February 2nd: 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

Tampa Bay Engineers Week Banquet

February 19, 2010 at MOSI

Details on Page 5!

Use and Innovation in Alternative Energy

Tuesday, February 16, 2010

Details on Page 6

Rockwell Automation Seminar

Tuesday, February 2, 2010

Details on Page 7

Upcoming Events!

***Ninth Annual Wireless Telecommunications Symposium
(WTS 2010)***

April 21 – 23, 2010 -- Tampa, Florida

Details in Next Month's Signal

<http://wts2010.eng.usf.edu>

Follow the FWCS on Twitter at <http://twitter.com/ieeefwcs>



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All material for THE SUNCOAST SIGNAL is due in electronic form by 1st Sunday after the 1st Tuesday of the month preceding the issue month. Address all correspondence to:

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This Month...(Editor's Column)

The publication of this issue marks my second year as Signal Editor! I have found the experience to be a good learning experience and also that it has presented new opportunities for me. I know it's a little late for making New Year's Resolutions, but one of mine is to attend as many of the events announced in the Signal as my schedule permits. I have attended a few and they have all been interesting.

There is a lot going on this month with the Engineering Banquet on the 19th and several meetings scheduled. If you have never attended a banquet I highly recommend it. The food was good and the keynote speakers have all been excellent and their topics interesting. The Master of Ceremonies will be none other than Jim Anderson so expect to be entertained.

Finally, I am announcing Tim Donovan has volunteered to take over the PACE activities. He attended the last EXCOM and wanted to get involved. He will be taking over from me so PACE will get the attention it needs. You can expect some PACE events in 2010.



Richard E. Beatie, P.E.
Director Of Engineering
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New Program to Assist High-Tech Entrepreneurs!

WASHINGTON (18 December 2009) — *If you're a high-tech entrepreneur looking for some feedback on your new business plan, [IEEE-USA TechMatch](#) is for you. IEEE-USA has established a strategic alliance with [The Business Catapult](#) to offer this feedback service free to IEEE members.*

“TechMatch provides IEEE members the benefit of interacting with IEEE-USA volunteers who are well-versed entrepreneurs and have gone through the process of starting companies,” IEEE-USA Entrepreneurial Activities Committee Co-Chair Mauro Togneri said. “We’re not providing business advice, but we are able to share our experience.”

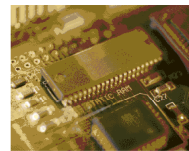
Here’s how it works. First, you receive a detailed, automated assessment of your business plan and objectives, and then a committee of experienced reviewers provides sustained, customized feedback to help improve the plan prior to presentation to prospective investors.

After you submit your plan online, you fill out the Benchmark Survey and Investment Summary and upload your executive summary and other relevant documents. In the Benchmark Survey, you are asked about your business concept and strategy. Based on your answers, a Benchmark Report demonstrates how your business compares with businesses that have achieved key success milestones.

The Investment Summary provides a clear snapshot of the investment opportunity to potential investors and helps educate you on how to think like an investor.

Your plan is then assigned to an advisory team, which review it and make detailed comments in eight key areas on how it can be improved. The plan is returned to you with a recommendation on how to proceed and whether you’re ready to seek funding. If you wish to submit your plan to investors, you may then transfer it to Business Catapult’s general deal flow (a fee may apply).

In June, [IEEE-USA and the U.S. Small Business Administration](#) signed an agreement to assist high-tech entrepreneurs starting new businesses. Both organizations pledged mutual cooperation in promoting, strengthening and expanding small business development throughout the country.



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New Region 3 Director, Lee Stogner 2010-2011

On January 1, 2010, Lee Stogner became the new IEEE Region 3 Director. In this position Lee will serve as a Director on the IEEE Board of Directors, IEEE Member and Geographic Activities Board, the IEEE-USA Board of Directors, and will be a member of many other IEEE committees. This is in addition to leading all of Region 3. Lee has many plans for the Region and for IEEE and will be seeking input and assistance from all IEEE members, and in particular those in Region 3. Assisting Lee will be the recently elected IEEE Region 3 Director-Elect, David Green. David will follow Lee as the Region 3 Director for 2012-2013.



If you have comments, suggestions, or would like to help Lee in his work as Director, just drop him a line at l.stogner@ieee.org.

IEEE Region 3 encompasses the southeastern United States and includes the states of Alabama, Florida, Georgia, areas of Indiana, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee, Virginia and the country of Jamaica.



IEEE Computer Society & AESS Dinner Meeting Identity Theft and Financial Cyber Fraud in the New Millennium Distinguished Visitor Tour

WHEN: Tuesday, March 30, 2010 at 6:00 PM

WHERE: CDB's Southside Italian Restaurant

3671 S. West Shore Blvd. Tampa, FL 33629 Phone: 813-805-2327

TOPIC: Identity Theft and Financial Cyber Fraud in the New Millennium

SPEAKER: Hal Berghel, Professor and Director of the School of Informatics and Associate Dean of the Howard R. Hughes College of Engineering

SPONSOR: FWCS IEEE Computer Society & AESS

This is an open meeting. Take advantage of a chance to learn about the genesis of the problem of identity theft and financial cyber fraud, network with fellow engineers and have an excellent dinner at CDB's Southside Italian Restaurant in South Tampa. You may order salad/soup, entree, and sides from the special menu for only:\$20 for IEEE members, \$15 for student members, \$30 for guests of members or for non-members. You will need to pay by check or cash at the meeting. Make checks to IEEE FWCS. **You get your dinner free if you join IEEE or add AESS or the Computer Society to your IEEE membership.** Sign up and email JLumia@ieee.org (813)832-3501. Membership information at: <http://ewh.ieee.org/r3/floridawc/membership.html> and <http://www.ieee.org/web/membership/societies/index.html>

Make your on-line reservation soon! <http://time2meet.com/fwcs-cs1/index.html>. Select "Make a Reservation" on the left of the web page.

The Topic: The genesis of the problem of identity theft and financial fraud is two inter-related phenomena: fungible credentials, and the technology that creates, validates, and authenticates them. Hal will explain the origins of modern ID theft and financial fraud and provide several examples of how they are perpetrated by modern e-criminals. Modern criminal exploits will be explained, and details of specific crimes will be given. Technologies that may be used to thwart these activities will be explained, and if possible, demonstrated.

About the Speaker: Hal Berghel currently Professor and Director of the School of Informatics and Associate Dean of the Howard R. Hughes College of Engineering, and Professor and past-Director of the School of Computer Science, at the University of Nevada, Las Vegas. He is also founding Director of both the Center for Cybersecurity Research, and the Identity Theft and Financial Fraud Research and Operations Center. His current research focuses on computing and network security, digital forensics, and digital crime.



Dr. Ralph E. Fehr III, P.E. Receives Prestigious IEEE Florida Council Award!

The IEEE Florida Council (comprised of all 12 Florida Sections, representing 9,500 IEEE members) has announced that Dr. Ralph Fehr, long time member of our Florida West Coast Section, has been awarded the prestigious 2009 Outstanding Engineering Educator Award! The award plaque was presented at the January FWCS EXCOM meeting by our Chair, Jim Anderson.



Ralph is an outstanding engineer with experience in many aspects of electric utility distribution, substation, and transmission engineering. He is a professor at the USF College of Engineering, Electrical Engineering Department, where he focuses on teaching power engineering courses. His past careers included many years at Florida Power Corp and Tampa Electric Company.

Ralph was honored for keeping alive and expanding a vibrant, relative power engineering program at USF even during periods of changing administrations and economic downturns. He also founded and is a faculty advisor to X-Labs which is a very motivated student interest group which promotes engineering and the sciences by designing, building and conducting high visibility demonstrations and experiments.

Ralph has been a long-time IEEE volunteer since 1992, serving on many committees and supporting several PES General Meetings and conferences! He is co-advisor to the USF IEEE Student Branch. Let's all congratulate Ralph for his accomplishments and this award. He truly deserves this honor.

Byline: Richard Beatie, P.E., Chair Awards & Recognition Committee

Brain Teaser Challenge Solution - November 2009 Butch Shadwell

Pulse code modulation was the topic last month. "...he decided to build a codec that would send 8 bit PCM audio at 2.5 kilobytes per second. It seemed to work pretty well on most male voices, but there was weird distortion with music and some women. Fred may have fallen asleep in his DSP class. What do you think could be his problem? Fred often preferred to be called Stanley Smith for some odd reason, but I am not sure why I am telling you his alternate identification."



The clue referred to Fred's alias, Stanley Smith. And of course the answer to the question was aliasing. At the given sample rate, the highest frequency that can be digitized properly is 1.25kHz. If spectral components higher than this frequency are fed to the analog to digital converter at amplitudes greater than 1/512 of the peak signal voltage, then that energy will interact with the sample frequency and produce noise. The typical answer is to have a filter on the analog input that attenuates these higher frequencies, or you can over sample and filter it after digitization. But I bet you already knew that.

Brain Teaser Challenge – December 2009

Space travel has been the spark of imaginary adventures for over a hundred years. Jules Verne wrote "From the Earth to the Moon" in 1864. A popular film today is "Avatar" which takes place on a hypothetical planet some distance away where a very valuable mineral (unobtainium) is in abundance. One of the things that always bugs me about these science fiction stories is that they always underestimate the sophistication of future technology. Avatar is supposed to take place over 140 years into the future, and the military is still flying around in a type of helicopter and firing weapons that have chemically propelled bullets. And the worst thing is that they miss the target most of the time (also true in Star Trek). I am quite confident that in 100 years we will have fire control systems in handheld weapons that will ensure better accuracy, if only to conserve energy. I can imagine that many of you are hoping that in 100 years the whole notion of weapons is obsolete.

Today we improve the accuracy of air dropped ordnance, and reduce collateral damage, by using a target designator system. Can anyone tell me how these work?

Reply to Butch Shadwell at b.shadwell@ieee.org (email), 904-410-9751 (fax), 904-410-9750 (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.



Tampa Bay Engineers Week at MOSI

The annual Tampa Bay Engineers Week Banquet will be held on the evening of Friday, February 19, 2010, at MOSI. For the first time, the Tampa Bay Engineers Week Banquet Committee is facilitating an Outreach Project in conjunction with the event. We are working with MOSI to help develop initial research for an Energy Center at the Science Center.

The Tampa Bay Engineers Week Banquet is an event that people will be talking about for months to follow. At the banquet, the findings from the Outreach project on the different forms of energy and alternative energy will be unveiled for the first to the public. Additionally, awards will be presented to outstanding engineers in each discipline, as well as local engineering students excelling in their engineering related studies. The banquet also features the Lignell Awards. These awards, named after a former Chairman for the Institute of Electrical and Electronics Engineers (IEEE), are given to local High School educators who are performing outstanding work in the instruction of the STEM topics (science, technology, engineering and math). The organizers of the event recognize the important role these individuals play in encouraging students to pursue technological degrees in college.

The keynote speaker is Wit Ostrenko, President and CEO of MOSI. For the first time, the Tampa Bay Engineers Week Banquet Committee is facilitating an Outreach Project in conjunction with the event. We are working with MOSI to help develop initial research for an Energy Center at the Science Center.

Where: MOSI 4801 E Fowler Ave, Tampa, Florida, 33617

Time: Vendor Expo and Cocktail Reception (Cash Bar) 5:30pm – 7:00pm Dinner, Speaker, Awards 7:00pm

Cost: \$55 per person

For more information visit <http://www.tbewb.org/>

Serge Beauzile





Date: Tuesday, February 16, 2010
Time: Seminar: Registration 11:30am-12:00pm, Speaker 12:00pm-1:30pm
Speaker: Robert M Reedy, PE Director, Solar Division at Florida Solar Energy Center, 1679 Clearlake Road Cocoa, Florida 32922.
Location: TECO Plaza (702 N Franklin Street Tampa)
Cost: \$10 Members, \$20 Non-Members, \$5 Students. (Includes Lunch)
RSVP: Online at: <http://time2meet.com/fwcs-pes1/index.html>
 Make checks payable to: IEEE FWCS
 Send checks to: John Stankowich, IEEE PES/IAS Treasurer
 2593 Forest Run Court
 Clearwater, FL 33761-3716
 Space limited to the first 30 registrants!!!
 Cancellation must be submitted online 24 Hrs prior to the event at:
<http://time2meet.com/fwcs-pes1/index.html>
No shows will be invoiced for the total cost of their registration fee.

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

This presentation will cover the advances in solar technology, including control and protection grid interactive PV inverters, cell and module development. Mr. Reedy will also provide an overview on the future of Solar in residential application and major solar project in electric utilities.

Speaker Biography

Robert M. Reedy, P.E. Director, Solar Energy Division

Bob Reedy is Director of the Solar Energy Division at FSEC. Mr. Reedy has been with FSEC since early 2007.



Prior to joining FSEC, he spent four years with the Georgia Transmission Corp. as Research Manager and as Manager of Transmission Line Design. He has also served as VP and Chief Operating Officer of the North American subsidiary of Turbec AB, a Swedish manufacturer of microturbine combined heat and power systems. Other experience includes Marketing Manager of The Energy Authority, Inc. and 13 years with the Lakeland Department of Electric and Water Utilities as Manager of Wholesale and Renewable Energy Businesses and as Director of their engineering and operations group. This earlier work has given him extensive experience in the utility industry and in the field of distributed power systems, with a specialty in energy marketing, financing and business planning. He is a Licensed Professional Engineer in Florida and Georgia.

At the systems level, Mr. Reedy is now heavily involved with advancing the control and protection of grid-interactive PV inverters. His prime interests in cell and module development involve optimization of optical and thermal designs, and thermoelectric-photovoltaic combinations.

Bachelor of Electrical Engineering, Auburn University, Auburn, AL 1973

Master of Science, Auburn University Graduate School, Auburn, AL 1975

Bachelor of Electrical Engineering, Auburn University, Auburn AL 1973



Teacher In Service

Dear Friends,

Happy New Year to everyone! The following are important announcements for education and engineering around the Tampa Bay Area. Please continue to browse the Teacher In Service Lesson Plans at the following URL:

<http://www.ieee.org/web/education/preuniversity/home.html>.

We encourage every school to take a look at the lesson plans. Please contact me at venner20@ieee.org to ask an engineer to do a presentation for your school going forward.

I have been getting a lot of returned Signal Newsletter which I send out as a courtesy communication. If you move or change schools, please let me know whether or not you wish to continue to receive them. Please update your address if you have a different location.

SCIENCE FAIRS 2010

Pinellas County announced their Science Fair is scheduled for February 6, 2010 at Seminole Middle School and was contacted by Paul Dickman, dickman@cat.pcsb.org, PRSEF Director, Center for Advanced Technologies. I have attached the registration forms.

Pasco County's Regional Science Fair will be held at the River Ridge Middle/High School on February 6, 2010. Later, The Pasco Young Inventors Fair will take place on April 17, 2010 also at River Ridge High School. Please contact Laura Hill for registration forms for judging.

Hillsborough County's Science Fair will take place on February 24th & 25th, 2010 at the Sun Dome.

Finally, the BIG EVENT: The 55th State Science and Engineering Fair of Florida will be held at the Orange County Convention Center in Orlando, Florida April 7th – 9th, 2010. We invite you to share your professional expertise as a Judge for the State Science

and Engineering Fair (SSEF) of Florida on Thursday, April 8th, 2010 at the Orange County Convention Center. In order to facilitate the Judging process efficiently, we need more than 400 Judges who have exemplary credentials in their area of science research. (SEE JUDGE RECRUIT LETTER FOR MORE DETAILS)

Sean Denny, TIS Chair



Rockwell Automation Seminar

A Paradigm for Inside-Out Energy Management (three part series)

Date: February 23rd, 2010

Time: 5:30 -7:00 PM

Location: TECO Plaza, Downtown Tampa

Seminar: "Plant-Wide Energy Optimization", part 1 of 3 seminars

Speaker – Steve Byrnes, Rockwell Automation, Regional Applications Manager

Cost: \$10.00 – IEEE Members, \$20.00 Non-members

This seminar is intended for Electrical Consultants, Facility Engineers and Automation Engineers to learn how to develop a "Greenprint" to dynamically and effectively control energy resources. The seminar will bring forward a multi-pillar methodology which includes monitoring, modeling and simulation for achieving energy optimization. The second seminar in the series will feature developing the integrated architecture and Infrastructure for optimal energy management The final seminar in this series will discuss creating the Factory as a Smart Node on the Smart grid. Steve Byrnes since 2000 has worked as Regional Applications Manager for the Systems Integration Division of Rockwell Automation.

His primary role is to assist with following:

- Evaluate the State of the Facility Infrastructure
- Understand their Goals and Business Drivers
- Devise Near and Long Term Architecture to Support Continued Energy Savings
- Devise Plans of Execution modeled by ROI, Corporate Energy Savings Mandate or Environmental Regulations.

Steve has a Mechanical Engineering degree from Rutgers, State University of New Jersey

Future seminars will feature **Infrastructure for Inside-Out Energy Management** and **Enabling the Smart Grid** as topics. Times and dates to be announced

Valerie L Tur, WIE, FWCS



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Or fax your address changes to (732) 562-5445

February 2010 Calendar of Events (For more information see P. 1) *inside this Signal...*

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
31	1	2EXCOM Meeting at TECO Plaza	3	4	5	6
7	8	9	10	11	12	13
14 <i>Valentines Day</i> 	15	16 Alternative Energy Seminar, see page 6	17	18	19 Engineers Week Banquet, see page 5	20
21	22	23 Rockwell Automation Seminar, see page 7	24 <i>Hillsborough. County Science Fair , page 7</i>	25	26	27
28	1	2	3	4	5	6