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THE SUNCOAST SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

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

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Two important meetings from the IAS and PES.

The New Energy Policy —How It Will Affect You!

December 9, 2005—Time: 12 Noon (Lunch Included—Reservation Required)

The Energy Policy Act of 2005 recognized the need for a reliable international bulk electric system and has created a new entity, the Electric Reliability Organization. Mr. John Twitchell, from the NERC staff, will review the steps to be taken and the timetable for NERC's transition from an organization with voluntary industry standards compliance to one who's standards are mandatory in the US and Canada.

—For details see New Energy Policy page 5

Gulfstream Natural Gas System Update

December 15, 2005—Time: 12 Noon (Lunch Included—Reservation Required)

Come join the PES West Coast Chapter for a luncheon meeting and hear our special guest speaker, **Mr. George Matzke, VP Gulf Stream Gas Co.**, on the subject of the Natural Gas System in the State of Florida. Perhaps you will find the answers to some of your questions related to the future of the power utilities that depend more on the natural gas supply.

—For details see Gulfstream Natural Gas page 3



And one joint Life Member/FWCS meeting.

VIP Tour Bishop Planetarium & Show

December 15, 2005—Time: 12:30 PM Jeff Rodgers, Director of Education for the Museum and Director of the Planetarium, will bring you behind the scenes for an overview of the million dollar computing system that drives the planetarium...

—For details see Behind the Scenes page 5

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Editor's Column—Student Members

Do you know *any* engineering students? Are they members of their professional organizations?

These organizations, such as ASME, AChE, IIE, and of course IEEE, are very important to their members but also to society at large. They provide a conduit of technical information to the public, share technical advances among their members, and support professional and career development.

Of course, I would like you to encourage students to become active in their student chapters. But also remind them to become full members when they graduate. (And in the IEEE, join GOLD—see below.) Yes, it costs more after they graduate, but it is their careers they may be hurting if they drop out. —PS



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IEEE GOLD

Are you GOLD material? Did you graduate within the last decade?

IEEE GOLD WANTS YOU!

IEEE and the GOLD committee are offering a FREE ONLINE seminar on the topic of Networking. It will be hosted by Karen Susman, who is “well-known for showing her audience creative strategies for assessing and managing their professional and personal challenges”. The seminar will focus on the skills necessary to develop successful networking opportunities.

For additional information on how to register online please visit – www.ieee.org/gold. The seminar will be held online at www.livemeeting.com on Dec. 16th at 10:00am.

The IEEE-FWCS Gold section is back! Look for meetings and additional information in your upcoming signals. Many thanks to our volunteers namely, Darwin Rivera, Chuck Toth and Kristy Baksh for helping the chapter get back on track. —KB



December Chapter Event PES/IAS FWCS



Gulfstream Natural Gas System Update

- Date:** Thursday, December 15, 2005
Time: 12 Noon (Lunch Included – Reservation Required)
Speaker: Mr. George Matzke, VP Gulf Stream Gas Co.
Location: TECO Hall
 702 N. Franklin St.
 Tampa, Florida 33601
Cost: \$10 Members, \$15 Non-Members, Student Members \$5
RSVP: Online at: <http://weiquality.com/fwcs-pes3/index.html>
 Make checks payable to: IEEE FWCS
Send checks to: Ralph Painter, IEEE FWCS Treasurer
 648 Timber Pond Drive
 Brandon, FL 33510-2937
Questions: Ghaff Khazami, PE (813) 960-0990, or gkhazami@ieee.org

Come join the PES West Coast Chapter for a luncheon meeting and hear our special guest speaker on the subject of the Natural Gas System in the State of Florida. You will be able to find out about the impact of the gas supply on the power plants and other needs. Gulfstream's, Vice President, Mr. George Matzke will update you on the subject, perhaps you will find the answer to some of your questions related to the future of the power utilities that depend more on the natural gas supply.

Speaker Biography:

Mr. George Matzke is the Vice President of Gulfstream Natural Gas System. He has a BSME and an MBA from the University of New York.

Gulfstream Natural Gas System is a joint venture of Duke and Williams. Gulfstream delivers natural gas from the Mobile Bay area accessing both Alabama and Mississippi infrastructure to the center of Florida.

Prior to joining Gulfstream, Mr. Matzke worked in business development for Progress Energy Corporation. Progress Energy is focusing on developing energy projects with an emphasis on the needs of the Southeast. Mr. Matzke did extensive work on understanding the dynamics of the Southeast Energy market especially in the State of Florida. He has extensive commercial experience in working with fuels, electricity and large capital projects.

Top 10 Ways to Screw-Up Your Engineering Career

Last month we discussed a couple ways to completely screw-up your Engineering career. Our assumption was that it would be a shame to accidentally do harm to your career so instead, let's assume that you wanted to stop your career in a spectacular fashion. What would be the best way to do this? Here are two more of my suggestions for the best ways to sink your career all by yourself:

#8: Don't Sweat The Small Stuff

Assuming that you are not self employed, your company employees more people than just you. What you might consider "small stuff" like time reporting, expense reports, security precautions, badge rules, etc. is probably the responsibility of one or more other people. If you decide to skip doing something, or try to shortcut the "little" rules because you can't be bothered to do it the right way, then you are basically showing disrespect to a lot of people. Listen to the voice of experience on this issue: this is never a good idea. Save yourself a lot of grief and do it the right way—your career will thank you for it later on.

#7: Bee A Reel Fast Tiper

Interestingly enough, what you learned in school was correct: spelling and grammar count! In the 21st Century, your career will live and die by email and instant messaging (IM)—more people will know you by your typed word than by meeting you face-to-face. IM is both the best and the worst thing to happen to the workplace. You can minimize the damage to your career that emails can cause by doing two things: counting to 10 before hitting the send key on each email (so that you can proofread your message for spelling & grammar errors). I personally get between 200-300 emails a day. Do you really think that I have any time to spend on an email from you if it's too long? Too boring? Too confusing? If you make people work to understand you, then you are out of luck—they just don't have the time.

Ok, so here are two more suggestions for how to finish your career all by yourself. If you decide to ignore these suggestions, then stay tuned to next month's Signal—I've got more!
—JA



2006 IEEE-USA/AAAS Mass Media Fellowships—Apply Now

Applications must be received by 15 January 2006. See <http://www.aaas.org/programs/education/MassMedia/> and November Signal for more information.

IEEE Secrets Revealed: 2005 Sections Congress!

The IEEE Sections Congress was held here in Tampa last month. You probably saw articles in the Signal and (hopefully) when you checked out our web site (<http://www.ieee.org/fwcs>). Like most folks, you probably weren't sure what it was all about and, since it didn't seem to have anything to do with IEEE dues, you forgot all about it. Ah, but it was important to you and now I'll tell you why...

Every three years the IEEE is willing to pay the big bucks that putting on a Sections Congress costs (it runs into the six figures I believe). There are two really important things that the IEEE needs to accomplish at this meeting. The first is training volunteers on how to perform IEEE activities like tracking finances, running meetings, and building membership. The other reason is to create a list of the 10 most important tasks for the IEEE to work on for the next three years.

This was my first time attending a IEEE Sections Congress. I was amazed to learn that the IEEE is a actually a big business—we have \$227M in annual revenue. The IEEE has a CFO and spends a lot of time managing its money and uses real investment professionals to do it. The IEEE is worrying about the same things that most businesses are worrying about: branding, serving its customers, etc. The nuts and bolts of running a Section (like your very own Florida West Coast Section) were covered in two days of intensive overview sections.

There are an incredible number of volunteers working for the IEEE. I believe that the roughly 300,000 IEEE members belong to 92 Sections that are sprinkled all over the world. At this Section's Congress I had the opportunity to meet a guy from CERN, the team from Brazil, a guy from Saudi Arabia, etc. A very interesting thing is happening: the IEEE's international membership is getting very close to passing the domestic membership. This will probably have some interesting impacts on the IEEE in the future.

Finally, the delegates from all of the IEEE Sections closed out the Congress by voting on a list of proposals. The proposals identified issues that the Sections had identified as needing the attention and resources of the entire IEEE organization to solve. I'm out of space, but the list of 10 proposals that ended up being adopted for the IEEE to work on during the next three years is available on the web at: http://www.ieee.org/organizations/rab/sc/2005/SC05_Recommendations.htm

—JA

IEEE / IAS 41st Annual Meeting

Ten months and counting.—That is when the IEEE / Industry Applications Society 41st Annual meeting will arrive in Tampa. The dates are October 8-12, 2006.

The IAS is a multidiscipline society on Applications of Electrical and Electronic Engineering to Industry and Commerce. A Range of applications, such as, lighting, mining, metals, petroleum & chemical, electric machines, power electronics and drives, power systems, and many others.

This meeting brings engineers and others from around the world to its Annual Technical Conference. A chance to meet and interact with engineers from many countries in a single location.

More details and the Call for Papers are available on the Conference Web Site. [ieee.org/ias2006](http://www.ieee.org/ias2006)



Some Photos from SC05



If you don't know these people you had better attend more ExCom meetings.



Photos: Sean Denny



December Chapter Event

PES/IAS FWCS



The New Energy Policy—How It Will Affect You!

- Date:** Friday, December 9, 2005
Time: 12 Noon (Lunch Included – Reservation Req.)
Speaker: Mr. John Twitchell, NERC
Location: Florida Reliability Coordinating Council (FRCC)
 1408 N. Westshore Boulevard, Suite 1002
 Tampa, Florida 33607-4512
Cost: \$10 Members, \$15 Non-Members, Student Members \$5
RSVP: <http://weiquality.com/fwcs-pes2/index.html>
 Make checks payable to: IEEE FWCS
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Questions: Jim Howard at 863-834-6506 or jim.howard@lakelandelectric.com

The Electric Reliability Organization

The Energy Policy Act of 2005 recognized the need for a reliable international bulk electric system and has created a new entity, the Electric Reliability Organization. The ERO will be a government and private sector partnership responsible for the reliability standards used by the electric industry to plan and operate the electric grid. Compliance with the ERO's standards will be mandatory for all participants in the grid, and there will be Federal Energy Regulatory Authority or Provincial Authority approved penalties for non-compliance. This is a major development for the electric industry, and will result in enforceable, more uniform, standards over all of North America.

The North American Electric Reliability Council has been performing the role of industry standard setting for many years, and is in the process of applying to be the ERO. This preparation has involved many changes to NERC, such as governance and in the standards setting process. Numerous additional steps must be taken by NERC before it completes the transition to the ERO. John Twitchell, from the NERC staff, will review the steps to be taken and the timetable for NERC's transition from an organization with voluntary industry standards compliance to one who's standards are mandatory in the US and Canada. He will review the differences between NERC's historical standard compliance and enforcement process and the ERO standards compliance and enforcement processes. The ERO will impact every participant in the grid, including utilities that traditionally were not regulated by FERC.

Coming Event

Celebrate Engineering Banquet 2006: Engineers Are Treasures Among Us!

The Florida West Coast Engineering Alliance will be holding its 6th annual "Celebrate Engineering" Awards Banquet (CEB) on February 17, 2006, at the Wyndham Westshore hotel on Kennedy Boulevard in Tampa.

We are pleased to announce that the speaker for the event will be Mr. Roy Truman, Odyssey Marine Exploration's Director of Marine Operations. Mr. Truman will describe the engineering skills & feats that were utilized in recovering the treasure from the SS Republic. The emcee for this night of celebration will be Dr. Jim Anderson.

This premier event brings together local leaders and engineering professionals to recognize the outstanding achievements of Engineers, Science & Math Teachers, and Students in our community. Tickets will go quickly: tickets are \$30/person and are available by sending email to Jim Anderson at jim.anderson@ieee.org. For more information, check out the CEB 2006 web site at <http://ewh.ieee.org/r3/floridawc/celebrate>.



Behind the Scenes at the Bishop Planetarium

- Date** Thursday, Dec. 15, 2005 **Time-** 12:30 PM
Tour Director- Jeff Rodgers
Show Search for Life **Cost-**\$6.00
 There will be no box lunches available at this meeting but there are many restaurants available in the area
Location 201 10th St. west, Bradenton Fl.
RSVP <http://www.ewh.ieee.org/r3/floridawc/>
Questions Jules Joslow, 941-351-4812 or joslow@ieee.org

Jeff Rodgers... (cont.) and give a preview of the advances that digital planetariums offer. The computer drives state-of-the-science digital projection systems for an all digital full dome planetarium. We will witness the unit in action during the showing of "Search for Life." Harrison Ford will be the narrator. The best description of the show can be found at http://www.amnh.org/rose/searchforlife.html?src=r_sps

Meeting is open to all section members and their guests.

Directions: From RT. I-75 take Exit 220 (RT. 64 west) which becomes Manatee Ave. Follow it to 10th St. west and turn right to Planetarium. Allow approximately 25 minutes to get from I-75 to planetarium.

AESS Summit Occurred in Tampa, FL on October 13

AESS Worldwide Chapter Leaders at the AESS Summit in Tampa

On October 13, the Aerospace & Electronic Systems Society (AESS) had a full day Summit for all the AESS Chairs. There was international attendance from Australia, Canada, India, Italy, Korea, Poland, Brazil and Turkey in addition to the U.S. chairs from throughout the country. We discussed our activities, organizational scope, and ways to improve the society to better meet its members' needs. We performed leadership training, and brain-stormed on what would be the top priorities for 2006 to help guide the executive team. It was a good chance to meet the AESS leaders and share ideas. We discussed scope issues from content of the AESS magazine to the system focus of the organization. Traditionally, the AESS was focused on electronic and computer systems.



Introductions of the 27 chapter leaders attending the Summit were made by Ron Ogan, the AESS Chapter Coordinator, who will be serving in 2006-2008 with the goal—"build a future AESS on a solid past". Jim Leonard, the IEEE/AESS Executive Vice President, explained the IEEE organization and the roles of societies. Dr. Zafar Taqvi, the new Associate VP- International Director, presented an overview of the 14 AESS distinguished lecturers and the AESS educational activities. The AESS vision, organization, and strategic plans were presented by Paul Gartz, AESS President, with emphasis on expanding the role of AESS in Region 8 (Europe, Middle East and Africa) and Region 10 (Asia and Pacific). Dr. Vitral represented Brazil where Juan Falcon and other volunteers are working to organize a new AESS Chapter. The afternoon concluded with an interactive workshop on chapter issues that was lead by Dr. Zafar Taqvi, Past AESS Chapter Coordinator.

This event was a great opportunity to update our programs and find ways to better serve our world wide members.
—Jim Lumia, FWCS AESS Chair



ENGINEERING
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*Student
Activities*

Wilson Miller

The Student Professional Awareness Conference (S-PAC) was a huge success. This would not have been possible without the support from our Sponsors and the volunteers.

Our thanks the following sponsors for their support:
Willson Miller Engineering Alumni Society
IEEE-USA Stone Chef

Our Senior Banquet will be December 2nd; this is an event held every semester to congratulate the graduating EE students. If you would like to purchase tickets and or sponsor a table for this event or would like more information please contact me @ Jludes@IEEE.org This is a great opportunity for companies to have a one-on-one with new grads in the Electrical Engineering field.

We wish everyone a Happy Holidays and be sure to keep up with our upcoming events for next semester.

—Jeremy Ludes

Coming Event Hurricane Wilma —The FPL Experience

Wednesday, January 18, 2006 Time: 12 Noon (Lunch Included – Reservation Required)

Speaker: Mr. Wendell Payne, Manager, FPL System Operations

On October 23-24, 2005 Hurricane Wilma crossed south Florida as a Category 3 Hurricane leaving a path of destruction across the state. FPL, which serves both sides of Florida in the area Wilma crossed experienced major damage to their system. This included substation, transmission, and distribution damage. Mr. Payne will share with us the damage sustained, work required to restore, and general information about the work FPL had to do to get its Customers back in service.

Details next issue of the Suncoast Signal.

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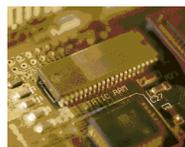
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As with any publication, our postal circulation varies monthly, but always exceeds 2,000. The overall average for The Suncoast Signal is 2,300; this does not include the many distributed at meetings and elsewhere. There is an additional nationwide mailing of about 75.

Furthermore, since The Suncoast Signal is on the IEEE Florida West Coast Section website, you get even more coverage.

For rates and details contact the Editor at 813-994-2297 or paulschn@ieee.org.



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Brain Teaser Challenge Column —By Butch Shadwell

October BTC Last month my super duper flight massager needed a power cord for "... a 5A, 120Vac, vibrating seat cushion. ... The auxiliary power unit that runs it only weighs 30 pounds and holds 8 hours worth of alcohol fuel. And, it fits neatly into the overhead compartment. What is the smallest recommended wire gauge for rubber insulated twin lead to connect these two pieces?"

A lot of folks I know don't realize that adding insulation to a conductor usually lowers its safe current rating. The problem is that insulation prevents the conductor from dissipating the heat from resistive and inductive losses. With reduced heat dissipation capacity, the wire will reach a higher temperature faster and could start to decompose. Adding rubber insulation will de-rate the ampacity [sic] of a bare wire by about 28%, depending on the ambient temperature and air flow rate. So, if the ambient temperature does not exceed 60 degrees C, most charts show that you could get by with only 20 gauge cooper. As you may guess, the choice of wire gauge comes down to the amount of over design you feel will give you the margin of safety you feel you need. But I bet you already knew that.

December BTC Time is on our side, or so the song goes. I think we always assume there will be time tomorrow to do that thing that you just couldn't fit in today. And isn't it amazing

how often there isn't enough time tomorrow either.

My cousin Frida works as a grape stomper whenever her street artist business slows down. She has always wanted to take up a career in particle physics, but felt that she just couldn't find the time for all that studying and going to classes. Then one day she saw an ad in the back of Popular Mechanics magazine. The ad explained that by capitalizing on her "life experience" she could get her PhD in nuclear physics in just three weeks, faster if she would spring for express delivery costs.

This was too good to be true, so Frida was soon sporting an impressive looking diploma. In applying for her first position in her new field she decided it would make an impression on her interviewer if she could bring in some new device she had designed herself. She brought in an ionization smoke detector. This detector uses an Am241 radioactive source. Who can tell me the dominant mode of decay for this radioisotope?

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.

December 2005 Calendar of Events (For more information see P. 1 *Inside this Signal...*)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	29	30	31	1	2	3
4	5	6 <i>5:30PM: IEEE FWCS ExCom Meet'g, TECO Hall, Tampa</i>	7	8	9 <i>Noon New Energy Policy, FRCC Tampa</i>	10
11	12	13	14	15 <i>Noon Gulfstream Natural Gas 12:30 pm Bishop Planetarium</i>	16	17
18	19	20	21	22	23	24
25 Merry Christmas	26	27	28	29	30	31

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IEEE/IAS Annual Meeting Oct. 2006 Tampa!

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