The Florida West Coast Section of the IEEE
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THE SUNCOAST IEEE SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

http://ewh.ieee.org/r3/floridawc | Volume 47 - No. 3 | March 2004

Tour of Butterkrust Bakeries

Presented by PES FWCS

Date& Time: *Thursday, March 11, 2004*
Time: *6:00pm, Tour at 6:15, Refreshments and discussion after*
Subject: *2-cycle transfer switch, the Joslyn FasTran, at ButterKrust Bakeries*

Presenter: *Doug Wimberly, Butterkrust Bakeries & Randy Dotson, Lakeland Electric.*

Location: *3355 West Memorial Blvd., Lakeland, FL*
Cost: *FREE!*
Reservations: *On-line: http://www.weiquality.com/fwcs-meetings/*
Questions: *Randy Dotson 863-834-6494 randall.dotson@lakelandelectric.com or Jim Howard 863-834-6506 james.howard@lakelandelectric.com*

Detail of Facility: BUTTERKRUST BAKERIES has been baking quality bakery products for over 96 years. Located in Lakeland, Florida, they have a 200,000 square foot facility owned by C&G Holdings Company of Chicago and operated under the name of Southern Bakeries, Inc. They bake and or distribute products under the Country Hearth, Rich Harvest Premium Select, Sunbeam and Private Label lines to Supermarkets and Restaurants throughout Florida.

Publix Supermarkets with over 720 stores has been a major customer of theirs in both name brand and private label bread products for over thirty-five years. In addition, they serve 7-11 Convenience Stores exclusively and Save-A-Lot Supermarkets exclusively all over Florida. Just a few of the major restaurant chain customers that they serve include Steak 'N Shake Restaurants, Bob Evans, Denny's and institutional accounts, such as Raymond James Stadium and the Ice Palace in Tampa.

Their commitment to excellence is unwavering. In September of 1996, they added a ten million dollar bread line capable of producing 200 loaves per minute. Eighteen months prior to this, Butterkrust added 1,000 cuts per bun line. With these additions Butterkrust was looking for a way to improve their reliability to reduce their exposure to down time, lost product, and lost production. The answer came with the addition of a 2-cycle transfer switch, the Joslyn FasTran. This switch accomplishes the transfer of source power to the facility from primary feed to alternate feed in a fashion that the facility and the equipment does not "see" this transition. This protects the facility from the ravages of the Central Florida lightning storms and has been proven effective (and cost efficient) for Butterkrust.

Directions from Tampa: From Tampa, I-4 East to Exit 28 Memorial Blvd. (careful of the construction) the Bakery will be on your immediate left after you make the exit. When you enter, park in the front row inside the fence to your right.

THE SUNCOAST SIGNAL is published monthly by the Florida West Coast Section (FWCS) of the Institute of Electrical and Electronics Engineers, Inc. (IEEE). THE SUNCOAST SIGNAL is sent each month to members of the IEEE on Florida's West Coast. Annual subscription is included in the IEEE membership dues.

All material for THE SUNCOAST SIGNAL is due by **7th day** of the month preceding the issue month. Address all correspondence to:

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Chair's Comments

By John Conrad

It is Science Fair season once again. Our Section's involvement with Science Fairs has increased significantly due to hard work of Carlo Dionson. In past years we have supported just two Fairs, Pinellas and Hillsborough counties, this year we expanded our "portfolio" to include Sarasota and Pasco counties.

I attended the Pasco Fair on Saturday and once again I was impressed with the high standards of the projects and the enthusiasm and knowledge of the school kids. Judging at these Fairs is very rewarding and I strongly recommend it to every one of our section members. The participation is greatly appreciated by the school authorities and it is a win-win situation for everyone concerned. Hopefully Carlo will continue his work in this area and we will participate in even more Fairs next year.

By the time you read these words the Celebrate Engineering Banquet will have been an even bigger success than last year. A lot of work has gone into that event by all the engineering societies involved and it seems to be rewarded by participation by more sponsors and vendors than ever and attendance looks like its going to break last year's record. You may be able to read more about it elsewhere in the Signal.

Good things keep happening due to the hard work of our section volunteers.

Mr. President working very hard to make the Celebrate Engineering Banquet 2004 a great success!! Besides many things, Mr. Conrad also handled the reservations for the event. The FWCS section is thankful to the dedication and hardwork of the following: John Conrad, Richard Beatie, Jim Howard, Zhen Tong, Quang Tang, Jim Beall, Ralph Painter, Art Nordlinger, Tom Blair, and Jim Anderson.

Celebrate Engineering Banquet Exceeds All Expectations!

Richard Beatie, Awards Chair

February 13 - The **IEEE FWCS** and 5 other participating local engineering societies celebrated the prestigious 4th annual **Celebrate Engineering Banquet**, in honor of **National Engineers Week**. Many society members, teachers and students were recognized with awards for their achievements. 320 members and guests attended one of the most outstanding engineering events ever held in the Tampa Bay area, at the most eloquent A La Carte Pavilion in Tampa.

Dr. Robin Murphy – Keynote Speaker

Keynote Speaker Dr. Robin Murphy, USF Professor, provided a dynamic and enlightening talk and live demonstration of the use of small robots for search and rescue operations, with discussion and actual video clips of use of these robots for the rescue mission during 9/11 in New York. What a wonderful example of the contribution of engineering technology to our society!

Dick Crippen, famous local sports broadcaster and current spokesman for the Devil Rays Foundation, entertained us throughout the evening as the Master of Ceremonies. Did you know that his son is an engineer! Local musicians serenaded us with eloquent and soothing harp and flute sonatas throughout the reception and dinner. Caricaturists were present to draw and capture our worst possible features highlighted on paper!

Mr. Dick Crippen – Master of Ceremony

The most **important** and real highlight of the evening was recognition of our **Heros** in engineering – members, students and local teachers who have made such a significant contribution to the engineering profession and engineering education. Here are the IEEE Award Recipients!

IEEE FWCS Engineer of the Year – Mr. James H. Beall, IEEE Fellow

Mr. JimH. Beall receiving the Outstanding Engineer award from Mr. Art Nordlinger

Mr. Beall received his BSEE from Clemson University, Clemson, South Carolina in 1953. He is currently an Engineering Consultant. He retired from AT&T Teletype Corporation in 1984, as a Senior Engineer in Plant Engineering, responsible for project management of electrical power and control systems for new facilities for the manufacture of electronic circuit boards, electrochemical facilities, electronic equipment manufacturing, MOS IC fabrication facilities and a research center for new MOS IC fabrication techniques. He also had Engineering Responsibility for all plant electrical operation, maintenance and expansion at the 1,300,000 square foot Skokie location. His many plant-engineering assignments included electrical design of the 600,000 sq. ft Little Rock plant. His career has been one of demonstrated technical leadership whether at company, local, society or Institute level.

Mr. Robert W. Beckwith receiving the PES Chapter Outstanding Engineer award from Mr. Art Nordlinger

PES FWC Chapter Outstanding Engineer of the Year – Mr. Robert W. Beckwith

Robert W. Beckwith was presented the PES Florida West Coast Chapter Outstanding Engineer of the Year Award by Art Nordlinger, Chair of the Chapter. Mr. Beckwith was recognized for "50 years of Leadership and Innovation in the Electric Power Industry and Support of the Power Engineering Society Florida West Coast Chapter". He is founder and CEO of Beckwith Electric Company in Largo. Mr. Beckwith is credited with a number of inventions, innovations, and patents including Frequency Shift Keying, the development of secure voice-modulated sonar for ship-to-submarine underwater communications, spread-spectrum sonar, an Over-the-Horizon Radar with a 2,000-mile range, the first Polaris Digital Fire Control system, an early-transistorized Supervisory Control & Data Acquisition system, and the first transistorized synchronizer used for generators.

IEEE FWCS Student Engineer of the Year - Mr. Carlomagno B. Dionson

Mr. Carlomagno B. Dionson – IEEE FWCS Student Engineer of the Year

Mr. Dionson is a senior electrical engineering student at USF, an active IEEE Student Branch officer, and has been very involved with promoting engineering as a career to his fellow and younger peers. Carlo was co-coordinator of IEEE Student Professional Awareness Conference (SPAC) recently, helping plan and organize a successful event that featured 2 prominent national speakers from IEEE-USA. He took charge of IEEE FWCS involvement with Science Fairs in Hillsborough, Pinellas Pasco and Sarasota Counties and provided 11 judges from IEEE to help review and judge the science fair projects submitted. Carlo is also very involved with a project called "Research Experience for High School Students" by scouring the local science fairs and talking to local school coordinators to find potential high school students for the program sponsored by USF College of Engineering.

IEEE FWCS Computer Society Student Engineer of the Year – Mr. Jeff LeFevre

Mr Jeff LeFevre – IEEE FWCS Computer Society Student Engineer of the Year

Jeff LeFevre is an outstanding senior undergraduate student in the Computer Science and Engineering department at the University of South Florida (USF). Jeff is an active member of the IEEE Computer Society's Student Branch at USF. He is now serving as its Secretary. Jeff has been working for the chapter for the past two years and has made outstanding contributions towards its success.

He is a very enthusiastic and dedicated member of our executive committee. Jeff is responsible for contacting leaders in the field of computer science and engineering and arranging for their visit to campus to speak with our students. Several well-known speakers, both from industry and academia, visited within the past year as a result of his efforts. Jeff is being recognized for his academic excellence as well as his service through membership in Tau Beta Pi Engineering Honor Society, Golden Key Honor Society, and Phi Theta Kappa Honor Society. He was on the National Dean's List in years 2001, 2002, and 2003.

LIGNELL Teacher Awards – Sponsored by Seminole Electric COOP & Honeywell

Mr. Jens Diaz – Hillsborough County

Mr.Dave Walker – Pinelles County

Mr. Ed Braddy – Pasco County

For many years the IEEE FWCS has sponsored the Lignell Outstanding Teacher Award Program to recognize and honor outstanding contributions by teachers to pre-college education in mathematics and science in Hillsborough, Pinellas and Pasco Counties. The award is named in honor of Kim Lignell, the 1977-78 chair of our Section. Teachers are nominated by their peers. They received a plaque, $200 honorarium, and framed autographed picture from our Governor honoring their achievements in advancing science and engineering education. Complete bios of their achievements are posted on the Section website (http://www.ewh.ieee.org/r3/floridawc/)

- ***JENS DIAZ***, Durant High School, Hillsborough County Mr. Diaz teaches Honors Physics, General Physics & Integrated Science (FUSE Program)
- ***ED BRADDY***, J.W. Mitchell High School, Pasco County Mr. Braddy teaches Chemistry Honors, Advanced Placement Chemistry & Adult Education Science
- ***DAVE WALKER***, Dunedin Highland Middle School Mr. Walker teaches Physical & Life Science Fundamental Programs & Advanced Classes

Please join the Section in recognizing all the above award recipients for their accomplishments & contributions to the engineering profession!

CAREER OPPORTUNITY

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. We are seeking a qualified candidate for the following position.

WIRELESS ENGINEER

Entry-level position responsible for the research, design, and development of microprocessor-based wireless device hardware and software. BSEE with an emphasis on wireless communication or related discipline required. Minimum 1 year experience in software coding using C, C++, and/or Assembly language. Must be familiar with microprocessor-based hardware design, RF design/testing and high-speed serial communication techniques, such as DSSS.

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Joint Meeting IEEE Computer Society and Programmable Logic User Group.

MATLAB to Silicon

Abstract: Floating Point Behavioral Synthesis to RTL MATLAB has become the de-facto standard for developing DSP algorithms. While today 97% of all DSP algorithms are implemented using dedicated processors, the major advancements of FPGAs can now produce algorithms that perform with an order of magnitude higher throughput, lower power consumption and minimized risk. This paradigm shift is opening the doors of innovation for the next generation of products.

To take advantage of this changing environment, a methodology must be in place to take Floating Point MATLAB to a Fixed Point, bit accurate hardware implementation. This presentation will take a design through the AccelChip process and show the major benefits of such a flow. The methodology presented will start with a design in Floating Point MATLAB and it will be transformed through behavioral synthesis to a standard RTL implementation. The goal of this process is provide an environment in which the algorithm developer and RTL implementer have a common platform for design, exploration and collaboration.

Presenter Biography: Michael Bohm is the Chief Technology Officer for AccelChip Inc. Bohm recently held Chief Technologist position at Mentor Graphics and was responsible for the corporate FPGA vision and implementation. Prior to joining Mentor, he was the Vice President and Chief Scientist for Exemplar Logic. He has 27 years of experience within ASIC/FPGA development and EDA. He has held board positions for VHDL International, Open Verilog International and SystemC. Bohm holds a Bachelor of Science degree in electrical engineering from Florida Institute of Technology. http://www.accelchip.com/

IEEE COMPUTER SOCIETY

Location: Paradyne
8545 - 126th Avenue North,
Largo, FL 33773
Date: Thursday
11th March 2004
Time: 6:00PM
Registration:
Please register at
http://www.pl-ug.org/

PL-UG

Symmetrical Components and Overcurrent Protection Discussed at USF

As part of their ongoing pursuit to create an environment of continuous learning and professional improvement, the University of South Florida will host a 2 ½ day seminar (March 8-10) focusing on the method of symmetrical components for power system analysis ($795 to attend, $770 to view on the web). With access offered via the web, live broadcast or classroom attendance, this seminar will delve into phase sequences, sequence networks, fault impedance and open circuit fault calculations.

Targeted for power system engineers, analysts, system planners and protection engineers, this seminar creates an environment to discuss the safety processes concerns and overcurrent issues electrical engineers face day to day. Through discussion, lecture and workshops, Ralph E. Fehr, III, P.E., (adjunct instructor at USF) explores the topic of symmetrical components and its applications. Beginning with a review of phasors and complex number mathematics, the seminar will integrate each topic to create the final methods of calculating open circuit fault currents parameters.

To further explore this topic, a supplementary 2 ½ day seminar (March 10-12) will be held on overcurrent protection coordination of distribution systems ($795 to attend, $770 to view on the web). This course analyzes the topology of a conventional radial feeder distribution system followed by discussing the benefits and disadvantages of such process designs. The class then investigates distribution protection equipment and holds a discussion of the common application of each type of equipment. The course concludes by examining the effects of contingency backup, abnormal operating conditions, and cold-load pickup on protection coordination.

Ralph Fehr has 20 years of experience in the field of electrical engineering and has taught for over 15 years. He holds a BS with honors from Pennsylvania State University and an M.E. from the University of Colorado at Boulder. Working with such organizations as the Public Service Company of New Mexico, Florida Power, TECO and the United States Air Force, Fehr is extremely qualified as an international consultant, an instructor at several universities around the country, and a professional engineer at numerous companies.

For information on these seminars and available PDH credits, contact the University of South Florida's FEEDS department at (813) 974-3783 or log on to http://feeds.eng.usf.edu.

PES/IAS Event Corner

Motortronics / Phasetronics in Clearwater hosted a tour for our PES/IAS chapter on 20th January 2004. About 25 members had the opportunity to see the manufacturing and testing of solid state power and motor controls and listen to a discussion of the various applications where these devices are used. The tour was very informative and educational. Many thanks to the employees at Motortronics / Phasetronics for arranging the presentation including Jim Mitchell, Karen Alberts, Jim Johnson, Hans Nieborg, and Mike Paparella for all the extra time they dedicated in setting up the facility for the tour.

Your PES/IAS chapter would like to continue to provide these "hands on learning opportunities". We are looking for other companies that would be willing to host a tour. If your company would be interested in hosting an IEEE sponsored tour, please contact tom_blair@ieee.org.

Three FWCS Members Elevated to IEEE Senior Membership

The following three Florida West Coast Section Members were recently elevated from Full Membership to Senior Membership: Mark A. Baron, Christopher J. Davis, and Munir Hafez.
Hearty Congratulations!!

IEEE Computer Society/Aerospace & Electronic Systems
Joint Chapter Meeting

Internet Dial Tones & Firewalls: One Policy Does Not Fit All

Mr. Robert Gezelter

Date/Time: Wednesday, March 24, 2004 at 5:30 PM

Location: ENB 109 (Engineering Building II), University of South Florida
4202 East Fowler Ave, Tampa FL 33620
(Check website **www.weiquality.com/fwcs-meetings** for room location.)

Abstract:

The popular image of the corporate firewall is a "gatehouse" guarding the corporate network, implying a single security domain. Today's corporate security realities are, however, far more subtle. Once past the "gatehouse", organizations are not monolithic security domains populated by indistinguishable individuals. Contractors, joint ventures, transient technicians, special access projects, and others all play a role in today's organization. Each aspect has its own needs (and limitations) for Internet and Intranet access.

The challenge is to provide each of the many constituencies with secure access while accommodating their inevitably conflicting rights, responsibilities and needs. In short, an organization must ensure internal security and regulatory conformance, while still allowing staff, salesmen, and contractors appropriate access to internal and external systems as needed.

The needs and requirements of typical constituencies will be examined. Ways to maintain ease of use and its attendant reduction in Total Cost of Ownership (TCO) will be explored. Our review will include the benefits and limitations of firewalls, SSL, HTTPS, VPNs, proxy servers, authentication, and WiFi (802.11a/b/g).

Biography:

Robert Gezelter, CDP, Software Consultant, guest lecturer and technical facilitator, has more than 25 years of international consulting experience in private and public sectors. Mr. Gezelter is a regular guest speaker at technical conferences worldwide such as HPETS (formerly DECUS). Mr. Gezelter, a Senior Member of IEEE, is based in Flushing, New York.

Mr. Gezelter holds MS and BA degrees from New York University in Computer Science. In addition to his contributions on Internet and WWW Security to *The Computer Security Handbook, 4th (and 3rd) Editions*, his published articles have appeared in HP's OpenVMS Technical Journal, Network World, Open Systems Today, Digital Systems Journal, Digital News, and Hardcopy.

Reservations:

Please make on-line reservations at **www.weiquality.com/fwcs-meetings** or call Jim Lumia, the Chapter Chair, (813) 832-3501 if you have any questions.

Directions:

From Tampa or St Petersburg, take I-275 North to the Fowler Avenue exit. Head East on Fowler Ave., crossing Bruce B Downs Blvd (30th Street), then turn left at the second stop light at the university main entrance on Leroy Collins Blvd. Stop in at the visitor center on your right to pick up a parking pass before proceeding to the Engineering Building. At the first traffic light on Leroy Collins Blvd, make a left onto Alumni Drive, ENB building will be on your right. Parking details and maps are available at http://isis2.admin.usf.edu/parking_services/visitors.asp

Students' Corner

IEEE Computer Society Student Branch at USF presents

AN AUDIO WATERMARKING METHOD FOR TELEVISION METERING APPLICATIONS

Location: ENB 313, USF Tampa Campus
Time: 5-6pm
Date: Thursday, 18th March 2004.
Contact: Upavan Gupta, President, IEEECS Student Chapter, (813) 974-1348
ugupta@csee.usf.edu

In today's internet-dominated world copyright protection and digital rights management are critical issues for owners of creative media material such as feature music and movies. Watermarking is a means of embedding proprietary digital data in such material in order to track and authenticate the use of such media content. The embedding process obviously has to be imperceptible in order to maintain the quality of the original content be it video or audio. At Nielsen Media Research we have developed audio watermarking technology for a different type of application: television audience measurement. In this case the watermarks are embedded in real-time at television broadcast stations and the data they carry uniquely identify the program being transmitted.

One of these audio watermarking methods, Nielsen Audio Encoding System II (NAESII), currently being deployed across the country is based on simultaneously boosting and attenuating a pair of frequencies in a block of audio such that one becomes a spectral maximum and the other a spectral minimum within its neighborhood. Each block of audio with a 10.66 millisecond time duration carries one bit of data. The frequencies chosen for modification are varied from block to block using a known hop sequence. A psycho-acoustic model similar to that used in audio compression controls the boost and attenuation operations. Error correction and message synchronization are implemented by means of PN sequences.

This seminar will include an overview of the research activities within the Technology R&D Group at Nielsen Media Research followed by a detailed description of NAESII.

Dr Venugopal Srinivasan ("Srini") received his B.Tech (Electronics) degree from the Indian Institute of Technology, Madras in 1970. He received the M.S. and Ph.D. degrees in Electrical Engineering from the State University of New York at Stony Brook in 1972 and 1974 respectively. Until 1978 he was an Assistant Professor in the Department of Electrical Engineering of SUNY, Stony Brook. From 1978 until 1994 he was on the faculty of the Department of Electrical Engineering at the National University of Singapore. He joined Nielsen Media Research in 1995. His early research work was in the area of optical image processing and holography. Subsequently he has worked on various aspects of image processing, computer vision, audio signal processing and watermarking. He has published over 30 research papers. He has been granted 3 patents and has 10 patent applications pending.

IEEE Student Branch, USF

February was certainly quite a busy month for the student branch! With the student chapter of ASME, we toured Harris Corporation in Melbourne, held a month-long workshop on PCB layout and took part in Engineering EXPO. We would like to thank Mr. Walt Whybrew of Harris Corp., Mr. Rick Cooper of Custom Manufacturing Engineering and all the student volunteers and officers that helped make these events a success.

The Spring Senior Banquet and Awards Ceremony will be held on April 23rd, 2004 in the Marshall Center Ballroom on campus from 7:00pm to 11:00pm. For more information on tickets, reservations and sponsoring tables please contact the student branch at ieee@eng.usf.edu or 813-974.4776.

Upcoming Events include:

Date	*Event*
March 3	IEEE Student Branch Meeting in ENB 108 4-6pm
March 8-13	Spring Break
March 27-28	SouthEastCon Conference
April 7	IEEE Student Branch Meeting in ENB 108 4-6pm
April 22	REU Poster Session
April 23	Spring Senior Banquet and Awards Ceremony
May 1	Graduation

Engineering Fun Day at USF *PCB Layout Class by Mr. Rick Cooper*

Brain Teaser Challenge Column

By Butch Shadwell

February BTC Solution At the time I am writing this I haven't received any correct answers for this BTC. Last month I was describing a very vivid dream in which "Fred is traveling north from Texas at 2000 mph and Jim is traveling southwest at 2000 mph from New York and then Jim shines a laser of 640 nm wavelength at Fred, what wavelength does Fred perceive?"

Some of the answers I got to this one made a basic mistake in failing to get the difference between the velocity vectors instead of the sum. Getting the difference means that the two vectors are placed tail to tail and the difference is measured from the point to point. This produces two vectors with 135 degrees between them. When you calculate the difference vector you get the two guys closing on each other at 3695 mph or 1.026 mi/s. In this case the apparent wavelength will be $L_a=L_o*((c-v)/c)$, L_o is the original wavelength, v is the net velocity and c is the speed of light (I used 186,000 mi/s). So, Fred is seeing a wavelength of 639.996 nm, my favorite color. But I bet you already knew that.

March BTC There is an old Trinidadian saying, "You can't polish your shoes, without breaking a few eggs." I never did figure this one out, but maybe that's why a lot of folks don't pay much attention to old Trinidadians. Yet here you are, reading this column. Go figure.

In the islands, food grows all over the place. Most folks have at least one mango tree nearby. With the aid of a long bamboo pole (used to knock the mangoes from the higher branches) one can harvest some wonderful fruit. As it turns out, the Engineering Department of the University of the West Indies is in Trinidad. I haven't been invited to speak there yet but I have met a few of their students cruising the malls in south Florida.

Fortunately, I did have a chance to talk to some great West Indian students about robotic design while in Jamaica last year. It turns out, Nigel built a little machine that was driven by two large wheels on either side, and a third idler wheel in the back that kept it stable. Each wheel could be advanced one thousandth of a turn for each pulse it was fed, and the drive wheels were 5 inches in diameter and mounted 10 inches apart. After a long series of complicated maneuvers, the count totalizer for each wheel showed the right wheel had been fed 1,000,000 counts and the left wheel had been fed 638,000 counts, all in the forward direction. If the robot was facing north (0 degrees on the compass) when it started these maneuvers, what direction was it facing when they ended? Assume there was no slippage of the drive wheels and that they had very small contact surfaces with the ground.

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.

March 2004 Calendar of Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	***2*** *5:30--7:30pm IEEE FWCS Excom Meeting TECO Hall, Tampa*	**3**	**4**	**5**	**6**
7	**8** *USF 2 ½ day Seminar on symmetrical components for power system analysis*	**9**	**10** *USF 2 ½ day Seminar on overcurrent protection of distribution systems*	***11*** *PES Tour of Butterkrust Bakeries, Lakeland. 6pm; IEEECS/PLUG Meeting, Paradyne, Largo, 6pm*	***12***	**13**
14	**15**	**16**	**17**	**18** *5-6pm IEEECS student branch talk on Audio Watermarking, USF Tampa Campus*	**19**	**20**
21	**22**	**23**	**24** *5:30 pm IEEECS/AES joint chapter meeting, USF Tampa Campus*	**25**	**26**	**27**
28	**29**	**30**	**31**			

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Florida West Coast Section
3133 W. Paris
Tampa, Florida 33614

Sections Congress 2005 is coming to Tampa!

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