SUNCOAST

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Inside this Signal...

Page 2

Editor's Column LightningMaster Membership Reasons PES/IAS Meetings

Page 3

Member-Get-A-Member Celebrate Engineering New Benefit For Members

Page 4

IEEE GOLD PES/IAS Chapter Chair FWCS AESS and Computer Society Hold the Date

Page 5

Hillsborough County Resource Recovery Facility Bay News 9 Tour Report **Optical Communications** Advances

Page 6

Flanders Motor Repair G.WIZ Science Museum

Page 7

Xilinx at Avnet IEEE Membership **Progress**

Page 8

Annual PL-UG Fest Florida Teslathon 2005

Page 9

Brain Teaser Challenge Siliconexion, Inc.



Tell us why you value the **IEEE**

IEEE Sections Congress 2005

"Promoting a World Class Volunteer Community"

IEEE Sections Congress is a triennial gathering of Section leadership sponsored by the Regional Activities Board. It is a four day event which involves hundreds of delegates from all ten Regions. At Congress they learn how to utilize the resources of the IEEE to maximize their effectiveness as IEEE volunteer leaders. Workshop, panel and tutorial sessions are held on topics of interest to the Sections. Sections Congress 2005 is being held in Tampa, Florida.

14 - 17 October 2005 **Tampa Marriott Waterside** Tampa, Florida, USA



courtesy

The goals of the 2005 Congress will reflect the theme of "Promoting a World Class Volunteer Community", and are three-fold:

1. to provide an opportunity for delegates to gain information and training skills;

2. to network and build relationships with other volunteers within the IEEE;

3. to serve as a forum for Section representatives and other local leaders, enabling them to voice – on behalf of the collective membership – the ideas. issues, and recommendations which will impact on the development and growth of the IEEE throughout the world, reinforcing its vitality and relevance to those it serves.

For more information go to http://www.ieee.org/organizations/rab/sc/2005/index.htm or contact Jim Howard, Chair, SC 2005 Steering Committee j.howard@ieee.org.

"... Sections Congress is the best IEEE event wherein local IEEE leaders can make a difference throughout the entire organization."

-Marc Apter, Vice President, Regional Activities



BTW, Don't forget the IEEE Student Branch Fall Picnic.

The date is Saturday October 8th at USF Riverfront Park from 10am-2:30pm. For more information: http://weiquality.com/fwcs-students/index.html

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All material for THE SUNCOAST SIGNAL is due in electronic form by 7th day of the month preceding the issue month.

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Editor's Column—Special Event

Welcome to the IEEE Sections Congress 2005! The FWCS is very excited to be hosting this memorable event. It allows us to show off our beautiful region and the solid strength of our Section members.

Those members who would like to help and attend may still be able to do so. Contact Jim Howard (i.howard@ieee.org) for more information.—PS







Membership Reasons

All 1.2 million documents in IEEE Xplore are now full-text searchable. With full-text search capabilities, IEEE members can improve their research with multiple search functions, consolidated conference listings, free keyword searchers, and much more. Members can also access affordable, full-text searches of IEEE Xplore's complete database of journals and conferences online. To search IEEE Xplore, visit: http://boldfish.ieee.org/u/747/03714722

Tell your friends why you belong to the **VIEEE**





Upcoming PES/IAS Meetings/Seminars

Look for upcoming Signals for more Information related to the following meeting and more:

> Update on the Gulf Stream Gas Pipelines, Luncheon meeting at TECO Hall. This is likely to be particularly timely.

Your PES/IAS Chapter is continuously looking for suggestions for events and meetings that would be beneficial to our local members. If you have any suggestions or if your company would like to sponsor a meeting or tour, please contact Ghaff Khazami at gkhazami@megaway.com or Tom Blair at tom blair@ieee.org.

Member-Get-A-Member Program

When you experience something good, you want to share it with others. It's the natural thing to do. This is the idea behind the IEEE **Member-Get-A-Member (MGM) Program.** Most members know how beneficial IEEE membership is in their professional lives and what it has meant to their technical and career development. With this campaign, IEEE members themselves can get the word out about IEEE's membership benefits and as a result, help IEEE membership grow.

Beginning 1 September 2005 and running through the 2006 IEEE dues year which ends on 15 August 2006, the IEEE will conduct the MGM Program to encourage members to recruit their colleagues to join IEEE. In return for their efforts, the recruiter will earn a \$5.00 credit voucher for each member recruited which can be used toward 2006 IEEE dues, IEEE Society fees or the purchase of IEEE products and services.

A 2005 IEEE Membership Application can be complete starting at www.ieee.org/myieee and clicking "Join IEEE."

Rules of the Program

- Completed applications, with full dues payment, must be submitted with the recruiter's name and membership number --both are required -- in the proper recruiter box on the application. The online form requests that information.
- Applications received without a recruiter's membership number will be disqualified and there will be no retroactive qualifying of recruiters.
- The MGM Program may not be combined with other membership incentive programs such as discounted Society conference membership promotions.
- Applications may be submitted in hard copy or online at www.ieee.org/myieee.

To qualify, applications must be received at IEEE before **15 August 2006.** All cash award vouchers will be mailed to qualified recruiters prior to 1 October 2006 and will be valid through 31 December 2006.—TB

Plan Ahead: Mark Your Calendar For The Celebrate Engineering Banquet!—Friday, February 17th, 2006.

What if there was a party that was thrown just to celebrate you?—Would you come? Of course you would, and that's exactly why the 6th annual Celebrate Engineering Banquet is expected to sell out so quickly. Engineering is a demanding profession that only a select few have the drive and determination to enter and remain in. We all know that we are part of an exclusive club of fellow engineers whose work does actually change the world that we live in. The Florida West Coast Engineering Alliance's Celebrate Engineering Banquet is our once-a-year opportunity to celebrate our shared profession.

The Florida West Coast Engineering Alliance was created to further the engineering and allied technical professions by recognizing individual achievement and encouraging cooperative activities in these professions. This premier event brings together our local leaders and engineering professionals to recognize the outstanding achievements of Engineers, Science & Math Teachers, and Students in our community. As a bonus for you, if you have been too busy to do any professional networking this year, you can make up for this by attending this banquet.

What would an Engineering banquet be without awards? For some years now the IEEE Florida West Coast Section (FWCS) has participated in the Lignell Award Outstanding Teacher Recognition Program to recognize and honor outstanding contributions by teachers to pre-college education in Mathematics and Science in Hillsborough, Pinellas and Pasco Counties. This program is open to all individuals teaching classes in Mathematics or Science in the public schools during the current school year. We are currently seeking nominations for this year's awards that will be presented at the Celebrate Engineering 2006 Awards Banquet. For more on the Lignell Award contact Zhen Tong at tong@ieee.org.

We will be accepting reservations for this event shortly. Mark your calendars for Friday, February 17th, 2006 (it's much closer than you might think!) and we'll see you at the Celebrate Engineering Banquet!—JA



NEW BENEFIT for MEMBERS

ONLINE ACCESS TO IEEE *POTENTIALS* **MAGAZINE** Beginning this month, all IEEE members receive online access to *IEEE Potentials* magazine as part of their basic IEEE membership. *IEEE Potentials* provides information on the latest research and innovation in a wide range of engineering and technology topics. It also features items on professional development and career issues, and includes tutorials on the implications of new technology. To access the online version of *IEEE Potentials*, visit: http://ieeexplore.ieee.org/xpl/RecentIssue.jsp?punumber=45>

IEEE GOLD

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

IEEE GOLD WANTS YOU!

"Graduates Of the Last Decade", provides an easy transition from the world of students into the world of professional relationships. Activities are geared towards finding the right career, networking opportunities, building professional relationships and maintaining one's technical knowledge. Don't delay, sign up for GOLD today! Did you know that most companies pay at least half of professional membership dues? Don't have the job yet but still want to get involved? IEEE offers reduced rates for recent grads as well as those for those who are unemployed.

For information on this as well as other GOLD activities, subscribe to the GOLD Quarterly. You can subscribe by sending an email to: listservieee.org. Leave the subject field blank and in the body type "subscribe goldrush". This online newsletter provides an account of all activities within IEEE's reach

Want to get involved with the Florida West Coast Gold Section? Send an email to goldfwcs@gmail.com Look forward to hearing from you!—KB



PES/IAS Chapter Chair's Comments—By Ghaff Khazami, P.E.



On behalf of PES/IAS chapter of Florida west coast section I would like to welcome the IEEE Sections Congress in the Tampa Bay Area.

The PES/ IAS chapter of IEEE West Coast section has organized several events

this year and continues to perform well in seminars, meetings and touring of different facilities in the area. We are planning to add more tours and meetings in the upcoming months.

We plan a series of seminars and meetings related to the Power Transmission Planning and updating members on the power utilities plan for Grid Florida, a tour of Hillsborough County Resource Recovery Plant, Gulf Stream Gas Pipeline, joint IEEE/ASME tour of Florida Electric motor facility in Lakeland and more.

Our accomplishments are the result of team work and effort from all the participants.

The Florida West Coast Section AESS and Computer Society

—By Jim Lumia



The combined chapters of the Florida West Coast Section's (FWCS) Aerospace & Electronic Systems Society (AESS) and Computer Society have approximately 390 members. This makes the FWCS Computer Society and AESS one of the largest local IEEE chapters. Jim Lumia is the Chair and arranges joint meetings of interest in the Tampa Bay area.

Many of the local members of AESS work for the area's defense contractors that are involved with aerospace, communications, or systems and contribute to the design, integration, test, and analysis of large, complex systems.

The local Computer Society members are involved in hardware, embedded software, and applications software design, development, and support. The Tampa bay area is home to many defense, medical, and commercial electronics R&D and manufacturing firms.

An affinity group that is involved in many joint meetings is the Programmable Logic – Users Group (PL-UG). PL-UG encourages the research, publication, and preservation of quality electronic design and verification methods, devices, and tools associated with programmable logic devices. PL-UG provides an impartial medium for the exchange of ideas and information via meetings, workshops, lectures and other educational activities

PL-UG annually makes monetary contributions to the Florida West Coast Section and this year will contribute to the local Teacher-In-Service program that was initially developed by the Florida West Coast Section. This program has worked with 56 middle and high school teachers from Hillsborough, Manatee, and Sarasota Counties to help develop classroom experiments that will generate student enthusiasm for science and engineering.



Hold the Date!

The FWCS Life Members Affinity Group will be presenting a tour a tour at the new Bishop Planetarium at the South Florida Museum in Bradenton to be held in early December.

Look for details in a future Signal.









Tour Of The Hillsborough County Resource Recovery Facility

Date: Tuesday, October 25, 2005 Time: 6:00 PM Location: 350 N. Falkenburg Rd. Tampa, FL 33619

Cost: FREE (space limited to first 25)

RSVP: Online at: http://weiquality.com/fwcs-pes2/index.html

NOTE: All participants will be required to sign a release. As a result, all registrations must be made by October 21.

Questions: Art Nordlinger 813-630-6203 or a.nordlinger@ieee.org

The Hillsborough County Resource Recovery Facility began commercial operation in October 1987. The facility processes 1,200 tons-per-day of solid waste while generating up to 29 megawatts of renewable energy that is sold to Tampa Electric. The facility is owned by Hillsborough County, which supplies all the waste. Covanta Energy operates the facility for the County. This facility uses secondary sewer treatment effluent from the adjacent wastewater treatment plant for part of its process water. Installation of new emissions control equipment to comply with Clean Air Act amendments was completed on August 25, 2000.

Directions: http://weiquality.com/fwcs-pes2/index.html



Bay News 9 Tour Report

Bay News 9 provided the IEEE a free Tour of their facilities on August 30. Ten members and three guests showed up at the new Bright House Network Building in the Carillon Office Complex in St. Petersburg.

The television station began in 1997 in Pinellas Park with 24 hour local news. Since then Bay News 9 has become one of the top five local broadcast stations in Tampa Bay. They moved to the Carillon area this past June.

The Newsroom was a buzz of activity. Desks in the center of the room had three employees for each news anchor. Anchors Jen Holloway and Jenny Dean were at their workstations getting the stories ready for the next promo taping.

The modern cameras are tapeless and store stories on DV-Pro DVDs. To permit filming in the newsroom, there are cameras mounted on the wall. Thin plasma screens display the current broadcasts on Bay News 9 or CNN. Another screen is a message board with story assignments.

The anchor desk and sports den were in another studio. We were told the anchors control the TelePrompTer from their desks. The cameras are operated from the production room. Therefore no camera operators are in the studio with the anchors. Each anchor has a preference for personal backgrounds and camera angles.



The work of running this operation is remarkably complex and we thank our guide, Debby Taylor, for making this a clear and memorable tour.—Sean Denny



Optical Communications Advances

Join the IEEE MTT/AP/EDS section and the USF Center for Communications and Signal Processing for "Advances in Optical Communications" presented by Dr. Guifang Li of the University of Central Florida. The seminar will be held on Wednesday, October 12, 2005 at 2:00 pm in ENB 261 at the University of South Florida Tampa Campus. kenoconnor@ieee.org or 727-302-2357 for more information.





Tour the Flanders Electric Motor Repair Facility





Date: Monday, October 10, 2005 Time: 6PM Location: 2701 S. Combee Road, Lakeland, FL 33803

Cost: FREE

RSVP: Online at: http://www.ewh.ieee.org/r3/floridawc/

Questions: Tom Blair at 813-228-1111, ext 34407 or thblair@tecoenergy.com



IEEE invites you to tour the Flanders Electric Motor Repair Facility in Lakeland Florida.

Flanders Electric was founded as a motor repair shop in 1947 by Frank Flanders and consisted of Frank and two employees (Roy Patterson and "Bud" Havens). It has now evolved into one of the largest motor repair and rewind companies anywhere, with multiple service centers and offices around the US. They currently employ over 400 people and provide specialized apparatus repair services worldwide. The Lakeland facility is one of five complete Flanders Electric service centers in North America. A shop tour and demonstrations of their repair processes and testing procedures will be shown. Other information about Flanders can be found at www.flanderselectric.com

Come join us for a very educational experience.



Life Members Affinity Group & Florida West Coast Section Invites You to a TOUR OF G.WIZ SCIENCE MUSEUM

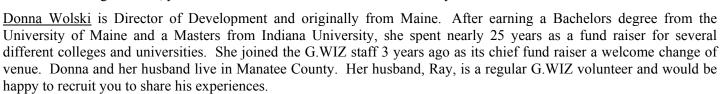
DATE/TIME: OCT. 27, 2005 TIME: 11:30 AM LOCATION: 1001 Avenue of the Arts, Sarasota, FL. RSVP: http://weiguality.com/fwcs-life/index.html

COST: \$16.00 (Includes light lunch and museum admission).

Make checks payable to IEEE-FWCS QUESTIONS: Jules Joslow, 941-351-4812.

G.WIZ is a hands-on science museum for the whole family, with 2 floors filled with exciting and educational exhibits, activities, and family fun. Each month, G.WIZ offers new science activities, demonstrations, and events designed to help visitors learn science by doing science. Our speakers will be Donna Wolski and Doug Perry.

After the meeting and tour, you are invited to see the rest of the exhibits at your leisure.



<u>Doug Perry</u> is the Director of Exhibits and Technology is another Northerner, having grown up near Boston. He moved to the area about 15 years ago to attend New College. It was at New College that he began exploring his interest in the field of Museum exhibits. In fact, his senior thesis dealt with the topic. He has been at the G.WIZ nearly five years and has seen his role expand in recent years. In addition to managing the Museum's exhibit s and technology, Doug is a major contributor to its planning for the future. Doug and his wife Konnie live in Sarasota with a menagerie of cats and a couple of dogs.

DIRECTIONS- http://www.gwiz.org/areamap.html



October Chapter Event Computer Society, AESS and PL-UG

Digital Hardware Design Topic: Xilinx Chipscope Presentation at Avnet

Date/Time: Tuesday 10/25/05 6:00 PM to 7:30 PM

Location: Avnet Electronics Marketing

380 Park Place, Suite 170, Clearwater, FL 33759 RSVP at: http://www.weiquality.com/fwcs-meetings/ This is an open meeting and there is no charge for attendees. Non-members and students are welcome.

Speakers: Mark Graham of Xilinx and Ben Harding of Avnet

The complexity of today's state-of-the-art Field Programmable Gate Arrays (FPGAs) make it nearly impossible to debug designs using traditional logic analysis methods. Flip-chip and ball grid array packaging don't have exposed leads for physical probing. Avnet and Xilinx will present a solution: Xilinx ChipScope Pro.

ChipScope Pro inserts logic analyzer, bus analyzer, and Virtual I/O low-profile software cores into your design. These cores allow you to view all the internal signals and nodes within your FPGA. Signals are captured at or near operating system speed and brought out through the programming interface, freeing up pins for your design. Captured signals can then be analyzed through the ChipScope Pro Logic Analyzer. ChipScope Pro can also link internal FPGA debug to Agilent bench test equipment

The Speakers:

Mark Graham has been a field application engineer for Xilinx for the past 10 years. Prior to Xilinx, Mark worked 13 years as a high-speed digital designer for Lockheed Martin and for Texas Instruments. He graduated with a BSEE degree from the University of Tennessee.

Ben Harding has 15 plus years of experience in a broad range of embedded hardware and software design areas including high-speed design with DSPs, network processors, and programmable logic. Ben has a BSEE from University of Alabama-Hsv with post-graduate studies in Digital Signal Processing, parallel processing and digital hardware design. Ben has presented FPGA design topics at several Embedded System Conferences and is the co-author of an engineering book, *Rapid System Prototyping with FPGAs*, published by Elsevier.

Directions: The **Avnet** local office is between SR60 (Gulf-to-Bay) and Drew Street, just east of US19 (a few hundred yards behind Bennigan's).

To get there from the west, go east on SR60. Turn left (north) at the second light after the US19 overpass (Park Place). Take a second left after the light (North Park Place in complex). The tan 3 story building will be a couple hundred yards ahead on the right side. Avnet's number is 727-507-5000. Your Avnet host is Ben Harding (727-510-5325)

This is a Joint Meeting with the Programmable Logic Users Group (www.pl-ug.org)



IEEE Membership Development Progress Report

August Stats Show Little Change

Total IEEE membership for August is up slightly over 2004 (+0.2%), representing a gain of 828 members over last year. On a geographic basis, Region 9, with a 16% increase over the prior year, is showing the best percentage gains. In absolute terms Region 8 is leading the pack with an increase of 2,916 members over August 2004. Unfortunately all six of the U.S. regions are down from 2004, as is Region 10.

Membership Snapshot						
	August 2005	% Change				
Total Membership	343,955	0.2%				
- Higher Grade	277,875	-1.6%				
- Students	66,080	8.7%				
Society Memberships	341,453	-2.4%				

November Chapter Event: Computer Society, AESS and PL-UG Programmable Logic Users Group's Annual PL-UG Fest

Date/Time: Tuesday 11/15/05, 9:00 AM to 4:30 PM Location: Holiday Inn Select, 3535 Ulmerton Road

Clearwater, FL 33762

RSVP at: http://www.weiguality.com/fwcs-meetings/ This is an open meeting and there is no charge for attendees.

Non-members and students are welcome.

Lunch and snacks will provided by the sponsoring vendors. | Programmable Gate Array (FPGA) technology.

This an annual event sponsored by the Florida West Coast Computer Society, the Aerospace & Electronic Systems Society (AESS) and the Programmable Logic Users Group (PL-UG).

PL-UG Fest is a full day of vendor and user presentations using focused on hardware design Complex Programmable Logic Device (CPLD) and Field

Previous vendors included AccelChip, Aldec, Altera, Avnet, Lattice Semiconductor, Marathon Sales, Memec/Insight, Mentor Graphics, Siliconexion, Synopsys, Xilinx, wEDA/Prover Technologies and others. There will also be "lessons learned" and technology presentations by local engineers.

We expect these vendors and more to present in November. More information will appear in November IEEE Signal after confirmation and details on the presentations and the speakers. Companies wishing to participate in this year's PL-UG Fest can call Jim Lumia at 813-832-3501.

This is a Joint Meeting with the Programmable Logic Users Group (www.pl-ug.org)



Florida Teslathon 2005





Saturday, November 5, 2005 Date: Location: 1314 Stoeber Ave. Sarasota, FL Cost: Free to all (families welcome)

RSVP:

http://www.ewh.ieee.org/r3/floridawc/ Parking: Street parking is available (no charge). Schedule:

Coil setup, social & swap meet -10:00 AM - 8:00 PM

Coil demonstrations - ~8:00 PM (once it gets dark

enough)

Speaker: David L. McKinnon and other tesla coil / high voltage enthusiasts Questions: Tom Blair at 813-228-1111, ext 34407 or thblair@tecoenergy.com or

David L. McKinnon at 813-784-8165 or 813-621-6463 Ext. 125;

email: Sales@DMsHV.com

Please go to http://home.netcom.com/~davmckin/FloridaTeslathons.htm for directions, map, and further Details:

details

We are cordially inviting members and their families of the IEEE to our annual Florida Teslathon 2005 to be held in Sarasota, FL. Our annual Teslathon brings together enthusiasts working with high voltage primarily based on the Tesla Coil invented by Nikola Tesla. There will be demonstrations of various types of discharges including spark gap (standard tesla coil technology) and tube coils (CW output). The Tesla Coils to be demonstrated at the Teslathon will range in spark outputs from a few inches to approximately 20 feet. Discussions of their operation will be held on an individual basis prior to the coil demonstrations, and a brief overview of their operation and safety considerations will be held immediately prior to the demonstrations



Brain Teaser Challenge Column —By Butch Shadwell

September BTC – In an effort to try to curb the werewolf problem in Region 3 we set out to mix up some werewolf detector last month. "... solution that requires one mole of silver nitrate. I have a cookie jar full of this powder, but I need one of you to tell me how much a mole of silver nitrate weighs."

For a compound a mole is equal to its gram molecular weight. Silver nitrate has an empirical formula of AgNO3. The molecular weight is the sum of the atomic weights of the compound's constituents. Silver (Ag)= 107.9, nitrogen (N)= 14, and oxygen (O)= 16. Since each molecule has three oxygens, you must triple its contribution to the total weight. So a mole of silver nitrate weighs 169.9 grams, or we'll call it 170 grams. But I bet you already knew that.

October BTC – With Sections Congress just around the corner, there will be a lot of our fellow IEEE members traveling from far and near. All of this globe trotting can lead to jetlag. I find it harder to adapt when I fly east than when I go west. So now when I go to Europe, I go by way of Norita, Japan.

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The Suncoast Signal offers advertisers access to a focused target audience of electrical, electronics and computer engineers in central Florida at a very low price.

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.

Not all travel problems are so easily solved. I am sure you have all heard of deep vein thrombosis. A number of air travelers have died from this phenomenon.

In an effort to help our guests arrive safely to the Tampa, Florida fete, I have been thinking of new ways to reduce the chances of someone succumbing to this fate.

I've come up with the idea of a vibrating seat cushion. Not just an ordinary vibrating cushion, but a 5A, 120VAC, vibrating seat cushion. My prototype gives one the sensation of being at ground zero of a magnitude 6 earthquake. 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?

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.



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

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
2	3	4 5:30PM: IEEE FWCS ExCom Meet'g, TECO Hall, Tampa	5	6	7	8 10 AM: Fall Student Picnic -see p2
9	10 Tour Flanders Electric Motor Repair Facility Lakeland	11	12 2:00 PM: Optical Comm. Advances USF Tampa	13	14 Sections Congress 2005 Tampa Marriott Waterside, Tampa	15 Sections Congress 2005 Tampa Marriott Waterside, Tampa
16 Sections Congress 2005 Tampa Marriott Waterside, Tampa	17 Sections Congress 2005 Tampa Marriott Waterside, Tampa	18	19	20	21	22
23	24	25 HC Resource Recovery Facility Tour & Xilinx Avnet Meeting	26	27 G.WIZ Science Museum & PE/IA ExCom Meeting	28	29
30	31	15:30PM: IEEE FWCS ExCom Meet'g, TECO Hall, Tampa	2	3	4	5 Florida Teslathon

Institute of Electrical and Electronics Engineers, Inc. Florida West Coast Section 3133 W. Paris Tampa, Florida 33614



Sections Congress 2005 is coming to Tampa!

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