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THE

SUNCOAST

SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.



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This Month's Meetings

July 7th: EXCOM Meeting

Meeting starts at 5:30PM At TECO Plaza

Register online at <http://time2meet.com/fwcs-excom/index.html>

Meeting is open to all FWCS members

and guests

Lakeland Electric's Substation Transformer Fire and Replacement Seminar

Thursday July 30, 2009

11:30am to 1:00pm

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IWQoS 2009

Sponsored by IEEE Communications Society

July 13-15, 2009

Location: Charleston SC, Site TBD

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This Month...(Editor's Column)

2008 IEEE EXECUTIVE COMMITTEE

FLORIDA WEST COAST SECTION

CHAIR: Jim Anderson 813-425-2467
jim.anderson@ieee.org

VICE CHAIR: Serge Beauzile, Progress Energy,
727-344-4123 or 727-409-1242 serge.beauzile@ieee.org.

SECRETARY: David Figueroa, dfigueroa@ieee.org

TREASURER: Dr. Paul Schnitzler (813)-974-5584
pauls@eng.usf.edu

SIGNAL EDITOR: Richard A. Sanchez,
Phone (813)239-3849 richard.sanchez@ieee.org

AWARDS & BYLAWS : Richard Beatie, PE, Lightning Master
(727) 580-3598 r.beatie@ieee.org

EDUCATION: Dr. Rudolf E. Henning and Zhen Tong
(813) 974-4782 or (727) 328-8777 (Ext: 333)
henning@eng.usf.edu or tong@ieee.org

MEMBERSHIP: Tom Blair, TECO Energy,
813-228-4407 tom_blair@ieee.org

TEACHER IN-SERVICE: Sean Denny: Venner20@ieee.org
(727)678-0183

PES/IAS CHAPTER: Tom Blair, TECO Energy,
813-228-4407 tom_blair@ieee.org

MTT/AP/ED CHAPTER: Ken A. O' Connor
kenoconnor@ieee.org

COMP/AESS CHAPTER: James S. Lumia (813) 832-3501,
jlumia@ieee.org

EMBS: Engineering in Medicine & Biology: Dr. Ravi Sankar:
813-974-4769 sankar@eng.usf.edu

SP/COMM CHAPTER: Hector Martinez, abelhct@hotmail.com

WIE: Women in Engineering: Suzette Presas (813) 974-4851
spresas@mail.usf.edu

LIFE MEMBER AFFINITY GROUP: Bob Franklin
boatseven@aol.com

GOLD: Tim Doolittle, tdoolittle@tmdvault.fastmail.fm

PACE: Richard Sanchez (813)239-3849 rsancz@verizon.net

STUDENT BRANCH CO-ADVISORS:
Dr. Paul Schnitzler, USF PS&A (813)-974-5584
pauls@eng.usf.edu

Dr. Chris Ferekides, USF, (813) 974-4818
ferekide@eng.usf.edu

Dr. Srinivas Katkooi, USF, (813)-974-5737
katkooi@ieee.org

STUDENT BRANCH MENTOR: Jim Howard, Lakeland Electric
(863) 834-6506 j.howard@ieee.org (H) (813) 876-1748

STUDENT BRANCHES:

Nathan Quecan, Chair USF Student Branch
nquecan@mail.usf.edu (727)424-2436

Joseph Easey Vice Chair USF Student Branch
jeasey@mail.usf.edu (352)727-8254

CONFERENCES: Jim Beall, j.beall@ieee.org

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

WEB MASTER: Claude Pitts, III, Claude.Pitts-III@pgnmail.com

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

Address all correspondence to:

Richard A. Sanchez

1018 Berry Avenue

Tampa, FL 33603

Home Phone 813-239-3849

E-MAIL: rsancz@verizon.net

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We are entering the long hot days of summer and along with that a noticeable decrease in activity among the Chapters and Societies. I have tried to replace those notices of events with articles of interest to members. As always, I am interested in publishing articles submitted by members. There are guidelines for submitting articles elsewhere in the Signal.

Astute observers may notice this month the change on the last page. It has the calendar and a place for the mailing label and information required by the Postal Service called the indicia. They are making a change in the location of the fold in relation to the indicia. It puts the calendar in a bit of an awkward place at the bottom of the page but the change is a requirement.

Thanks to all the contributors this month. Jim Anderson gives suggestions on "Overcoming the No" and Sean Denny has his Teacher In Service report and I have an article on Toastmasters and what it can do for you. I have been a Toastmaster for four years and it is where I met Jim Anderson who is a member of the Telecom Park Toastmasters.



LightningMaster Corporation 

Richard E. Beatie, P.E.
Director Of Engineering
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1351 N. Arcturus Ave. (800) 749-6800 Voice
Clearwater, Fl. 33765 (727) 580-3598 Cell
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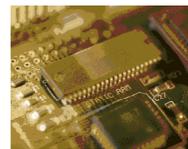
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NEWS from IEEE-USA

WASHINGTON (23 June 2009) -- To assist high-tech entrepreneurs starting new businesses, IEEE-USA and the U.S. Small Business Administration have signed an agreement pledging mutual cooperation in promoting, strengthening and expanding small business development throughout the country. According to IEEE-USA President Gordon Day, the agreement will benefit IEEE members who are starting their own technology-based businesses. "The American high-tech industry was created by individuals who had the vision and courage to create new products, companies and even whole industries based on little more than ideas and hard work," Day said. "Big companies like HP and Apple started in garages. By partnering with SBA, we can help find and nurture America's next generation of advanced technology companies and business leaders." Under the agreement, SBA will provide IEEE-USA with information about its programs and services, make available information about SBA's resource partners, provide speakers to participate in IEEE-USA events to discuss SBA financing, government contracting and other business topics, and invite IEEE members to attend local SBA-sponsored events and offer training at IEEE-USA-designated locations. IEEE-USA will cooperate with SBA's resource partners -- Small Business Development Centers, Women's Business Centers and SCORE "Counselors to America's Small Business" -- to provide information to its members about business development services for small businesses, inform IEEE members of SBA's programs and services, provide speakers for SBA-sponsored events and share volunteer opportunities, such as SCORE counseling positions, with IEEE members. "The SBA and IEEE-USA have joined together to help some of the nation's most innovative entrepreneurs start and grow their businesses," SBA Administrator Karen G. Mills said. "This cooperative agreement means that more technical businesses will be able to benefit from SBA programs, services and financial assistance as they create the jobs of the 21st century." Working through its Entrepreneurial Activities Committee, IEEE-USA has established an online Entrepreneurs Village, which provides resources promoting innovation and company growth, and links high-tech entrepreneurs with mentors and peers. See <http://www.ieeeusa.org/careers/entrepreneurs/>.

The SBA is an independent federal agency." See www.sba.gov.



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IEEE Job Site Redesign

The [IEEE Job Site](#) minor redesign is complete. This redesign was created with IEEE members in mind, providing them with additional career-related information and resources. Changes include: [What's New](#) - provides career-related news and articles from IEEE Spectrum, ieev.tv, Today's Engineer, CareerCast.com, and The Engineer UK Online. This page also includes subscriptions to the Going Global e-newsletter and IEEE Career Alert.

[Employment Resources](#) - provides information on job searches and salary information.

[Job Seeker Tools](#) - contains information and links for creating a resume, writing a cover letter, preparing for a job interview, and the importance of participating in a mentoring program.

[Webinars](#) - contains listings and registration links to upcoming job seeker-related webinars and links to archived webinars.

[Career Fairs](#) - has some new links to career fairs from companies like Techexpo USA, Women for Hire, and Targeted Job Fairs.

[Job Search Widget](#) - is still available. This downloadable version of the job search tool box, available for PC and Mac, allows members or any job seekers to download the tool box to their desktop, blog, or web page.



Lakeland Electric's Substation Transformer Fire & Replacement
Challenges of Doing Business with China

Date: Thursday, July 30, 2009
Time: Meeting: 11:30am-1:00pm (includes Lunch)
Cost: \$10 IEEE Members, \$20 Non-Members, \$5 Students
Speaker: Randy Dotson, Manager of Substation Engineering and Operations, Lakeland Electric
Location: Florida Reliability Coordinating Committee (FRCC)
 1408 N. West Shore Blvd., Suite 1002, Tampa, FL, 33618
RSVP: Online at: <http://time2meet.com/fwcs-pes3/index.html>
Space limited to the first 45 registrants!
Questions: Randy Dotson at 863-834-6494 or Randall.Dotson@lakelandelectric.com

In August, 2007, Lakeland Electric had a major transformer event which resulted in the explosion and fire of a 230/69kV-150MVA transformer. Randy will briefly discuss the event and then will describe the very crooked road of events that led to Lakeland Electric's purchase of a replacement transformer from a manufacturer located in China. The events involved, and the "hoops" that had to be "jumped through" to make the final installation successful are an interesting and challenging string of events.

SPEAKER BIOGRAPHICAL INFORMATION

Randy Dotson, P.E. is the Manger of Substation Operations & Engineering at Lakeland Electric. His primary responsibilities include Substation Design, Standards, Construction, & Maintenance. The Transformer & Apparatus Repair Shop and Hazardous waste clean-up also falls within his responsibilities. Randy is also the Project Manager for Lakeland's aggressive Smart Grid Initiative.

Randy has been working in the utility industry for 34 years. His experience includes Transmission & Distribution Design, Substation Design, Transformers, Switchgear, Substation Integration and Smart Grid equipment and applications. Previously He worked for 25 years at Florida Power Corporation (now Progress Energy, Florida) and is presently at Lakeland Electric, City of Lakeland, FL.

Randy is a Senior Member of the IEEE/PES and a member of the Standards Association. He is a member of the IEEE/PES Switchgear Committee, High Voltage Circuit Breaker Sub-committee, High Voltage Switch Sub-committee, Member of the Dual Logo (IEEE/IEC) Maintenance Team for C37.60 (Reclosers), corresponding member of the P2030, Guide for Smart Grid Working Group, and corresponding member of the Transformer Loading Working Group. He is a two term past Chairman of the Florida West Coast Chapter of IEEE-PES. He is the recipient of the 2007 FWC Chapter Outstanding Engineer award and under his leadership the recipient of the 2008 IEEE/PES Working Group Recognition Award for Outstanding Standard or Guide (C37.016- Circuit Switchers).

Randy holds a degree in Electrical Engineering from the University of South Florida and is a registered Professional Engineer in the State of Florida.



Brain Teaser Challenge Solution - April 2009

Butch Shadwell

While lying in the hospital bed I started thinking of my days of doing applied research in nuclear medicine. Then I knew what the next BTC would be, "...how does molybdenum-99 become technetium-99m?"

This was not a very difficult problem if you happened to know that molybdenum-99 was an unstable radionuclide and that it would usually have a beta decay to technetium-99m. Atomic number 42 becomes number 43. The molybdenum has a half life of about 2.8 days and the resulting technetium has a half life of about 6 hours before it has a gamma emission and changes to the more stable isomer of technetium-99. These two forms of technetium-99 are called isomers because they are identical in every way except that the arrangement of neutrons and protons in the nucleus is in a meta-stable configuration. After a gamma event the nucleus is in a lower energy state where it may eventually have a beta decay and turn into Ruthenium-99. But I bet you already knew that.

Brain Teaser Challenge – May 2009

I just got back from the international science and engineering fair in Reno a couple of weeks ago. What an amazing event! This was my third one in a row and it never fails to impress me. The really impressive part is not that the projects are so technically advanced, though many are, it is that these 1500 kids from all over the globe are so uniformly wonderful. Great looking kids, very polite, articulate, most of whom for which English is not the first language ... it is amazing. In my opinion there is no other event that so clearly demonstrates that there is great hope for the human race. And even though every one is a fierce competitor, they consistently look after each other and help each other when they can.



I helped to escort ten kids from my community to the fair. As you can imagine I took a lot of pictures and HD video. Most images and video stored and reproduced digitally, such as JPEG and MPEG, use a lossy type of data compression. This is accomplished through a mathematical transform that converts the image information into coefficients of sinusoids at various frequencies. Can you name this mathematical transform?

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.



State Highway Improvement Projects Would Use Hi-Tech

According to NCSL, states plan to use their federal stimulus money to pay for highway improvement projects that involve widening roads, fixing bridges or repaving highways. This is not news. However, nearly half the states plan to use some of their new funds to pay for high-tech gadgets that will reduce congestion, help the environment and create jobs quickly. At least 22 states have told the federal government they want to make their roads "smarter" by installing traffic cameras, creating express toll lanes, improving traffic signals and alerting drivers about accidents or delays ahead. Such projects are "quick, they can move forward very fast, they create jobs and they're effective in the short and long term," said Jaime Rall, an NCSL analyst. States are under the gun to tell the federal government how they plan to use \$26.7 billion in federal stimulus money for transportation. They have until June 29 to commit half of that money to specific projects, so states are focusing on projects that can get started quickly.



International Workshop on Quality of Service

Welcome to IWQoS 2009

Sponsored by IEEE Communications Society

July 13-15, 2009 in Charleston, SC

Since 1994, IWQoS has served as the prime annual workshop on Quality of Service, providing an international forum for the presentation and discussion of cutting edge research in the field. Building on the success of previous workshops, the objective of the workshop is to bring together researchers, developers, and practitioners working in this area to discuss recent and innovative results, and to identify future directions and challenges in developing practical computer / communication systems where predictable, controlled, and robust performance is a central requirement. IWQoS has a long standing tradition of being highly interactive, while maintaining highest standards of competitiveness and excellence. The scope of the workshop covers the main and currently important aspects of QoS research, including related issues such as availability, reliability, security, pricing, resource management, and performance guarantees.



To register for the event go to <http://iwqos09.cse.sc.edu/> and click on the “Registration” tab at the top of the page. The IWQoS 2009 will be held in [Charleston Place Hotel](#), one of the finest hotels in historic downtown Charleston, South Carolina, USA.

We have negotiated a special room rate of \$139 per night. The cut-off date for this special rate is **13 June 2009**. Call 800-831-3490 or Email grouppres@charlestonplace.com for reservations. Don't forget to mention IEEE International Workshop on Quality of Service while booking.

Charleston is a seaport city that offers many attractions both historic and scenic. You can find more info on travel [here](#)



IEEE-USA Releases First E-book in Innovation Series

WASHINGTON (22 May 2009) The first e-book in IEEE-USA's new Innovation Series on *Doing Innovation: Creating Economic Value -- Perspectives on Innovation*, is written by Gerard H. (Gus) Gaynor, Retired 3M Director of Engineering, and President of IEEE's Technology Management Council. Upcoming e-books in the series will include: *Book 2 - Developing a Workable Innovation Process*; *Book 3 – Fostering an Innovation Culture*; and *Book 4 – What it Takes to be an Innovator*.

“These four E-books provide the basics for gaining an understanding of what innovation involves; what it takes to be an innovator; and what it takes to develop a culture where innovation can thrive,” writes Gaynor. If you're looking to become an innovator, or participating in the innovation process, begin with *Book 1: Perspectives on Innovation*.

Topics in *Perspectives on Innovation* include: An Historical Background of Innovation; Ambiguities Associated with Innovation; Basic Concepts Associated with Innovation; Continuum from Idea to Innovation; Types of Innovation; and How Innovation Takes Place. You can purchase your copy of *Perspectives on Innovation* at

www.ieeeusa.org/communications/ebooks for IEEE **Member Price:** \$9.95 and **Non-member Price:** \$19.95.

If you've got an idea for an e-book that will educate other IEEE members on a particular topic of expertise, e-mail your e-book queries and ideas to IEEE-USA Publishing Manager Georgia Stelluto at g.stelluto@ieee.org.

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Contact: Sharon Richardson

IEEE-USA Communications Assistant

Phone: 1 202 530 8363

E-mail: s.richardson@ieee.org

Teacher in Service Report

Friends,

I had the pleasure of attending the FIRST Robotics S.T.E.M.inar at Catalina Marketing on May 16, 2009 hosted by the Tampa Bay Technology Alliance. I would like to see the IEEE Florida West Coast Section continue supporting this very good education activity. More information will be provided by Rose Mack mackr@pcsb.org as the summer progresses. I had the pleasure of meeting Eva Fernandez eva.fernandez@tbaonline.org and Jason Kindt jason_j_kindt@raytheon.com.

FWCS Officer Dave Figueroa sent the following suggestion:

Hopefully you have had the time to review the web page I sent:

http://www.cleanfuelcellenergy.com/fuel_cell_products.html

The source of this page was an associate known from a previous job. Colleen Spiegel is starting a business based on this clean energy idea. I told her this seemed like a good idea for the IEEE TISP. She also had told me she may be interested in being a guest speaker to discuss this idea. Let me know if I can be of help in continuing the conversation with her to help the TISP.

I viewed the home page which has this mission statement: *Clean Fuel Cell Energy's mission is to help educate people of all ages to learn, build, investigate, and use alternative energy sources. We help educate by offering educational materials, products, and kits. We also provide the materials and end-products for alternative energy solutions for scientists, engineers and students.*

I responded to David for more information because if we can combine engineering with environmental concerns then we could have something of interest to many schools. I recommend all of you take a look at the IEEE Education Website: www.ieee.org/education/precollege because the options have increased for lesson plans. I still encourage the Science Supervisors to contact me to reference an engineer who can demonstrate one of those lesson plans either at a Professional Study Day or on an In Service Day of your choice. Please Email your request to me at venner20@ieee.org. Pinellas County Schools, courtesy of Blythe Lamy (Lodermeier) LAMYB@pcsb.org has already posted the Pinellas Professional Study Day will be at Clearwater High School on August 21 at 1PM. Engineer Ralph Painter has agreed to do a presentation on Ohm's Law. Larry Plank Larry.Plank@sdhc.k12.fl.us has announced the Hillsborough County Professional Study Day is tentatively scheduled for August 18th. Please work with me for when your Professional Study Day becomes scheduled. This offer is open to Pasco, Polk, and Manatee Counties whom I have yet to hear from. Finally, please read the attached newsletter from Ralph Smith rsmith@computermentors.org from CMG. They announce an upcoming Technology Bowl on October 24th.

Sincerely, Sean Denny

TISP Chairman



2009 Honors Ceremony to be Streamed Live Through IEEE.tv

For the first time, the IEEE Honors Ceremony will be broadcast live on the web through ieee.tv. The [2009 IEEE Honors Ceremony](#) will take place Thursday, 25 June, at the Hyatt Regency Century Plaza in Los Angeles, California, at 6:00 p.m. Pacific Time (Friday, 26 June, at 01:00 UTC). [Robert H. Dennard](#), IEEE Life Fellow, will be presented with the [IEEE Medal of Honor](#) for inventing dynamic random-access memory which fostered faster and more reliable computers. Other honorees include individuals whose work has enabled deep-space exploration, improved digital storage technologies, and advanced radar detection, among others. The ceremony also will honor IEEE Student Members who were selected as winners in the inaugural [IEEE Presidents' Change the World Competition](#). These students developed solutions to problems that benefit humanity. This is the first time students will be recognized at this annual event.



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

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
28	29	30	1	2	3	4 
5	6	7EXCOM Meeting at TECO Plaza	8	9	10	11
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