

**The Florida West Coast
Section of the IEEE**
Serving over 2,300 members in Charlotte,
Citrus, DeSoto, Hardee, Hernando,
Hillsborough, Lee, Manatee, Pasco, Pinellas,
Polk, and Sarasota Counties



**THE
SUNCOAST
SIGNAL**

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.



**Inside this
Signal...**

Page 2

- * Editor's Column
- * LightningMaster
- * IEEE Leadership Wire

Page 3

- * Gasification Combined
Cycle Technology
- * Eng. Education Conf.
- * IEEE-USA Today's
Engineer

Page 4

- * 2007 PES Meeting.

Page 5

- * 2007 PES Meeting.

Page 6

- * Siliconexion
- * SECon'07 Awards
- * WIE Meeting

Page 7

- * Microwave Transistors

Page 8

- * Brain Teaser
- * Nolan Power Group
- * IEEE-USA Today's
Engineer

Page 9

- * Nolan Battery Sem.



**Evolution/Recent Advances in Microwave Transistors
Dr. Juin J, Liou - University of Central Florida**

MTT/AP/ED Chapter Meeting—Wednesday, May 2, 2007, 6:00 PM
TRAK Microwave Corporation 4726 Eisenhower Blvd., Tampa, FL

See page 7



**Joint IEEE/ASME Lunch and Learn – Integrated
Gasification, Combined Cycle Technology**

Date: May 18, 2007 Registration & Lunch: 11:30am – 1PM
Speaker: Mr. Lloyd Webb, Tampa Electric Company—See page 3



2007 Florida Engineering Education Conference

May 4, 2007—University of Central Florida—See page 3



**IEEE Women
in Engineering**
www.ieee.org/women

IEEE FWCS WIE Chapter Meeting

Monday, May 14, 2007, 6:00pm-- University of South Florida

See page 6

**2006 IEEE EXECUTIVE
COMMITTEE
FLORIDA WEST COAST SECTION**

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

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

SECRETARY: Serge Beauzile, 813-651-2923
sbeauzil@yahoo.com

TREASURER: Ralph Painter,
Tampa Electric Co. (813) 228-4685 rdpainter@ieee.org

SIGNAL EDITOR: Dr. Paul Schnitzler,
USF PS&A (813)-974-5584 paulschn@ieee.org

AWARDS & BYLAWS : Richard Beatie, PE, Consultant
(813)-289-0252 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@aol.com

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: Hüseyin Arslan USF (813) 974-3940,
arslan@eng.usf.edu

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

LIFE MEMBER AFFINITY GROUP: Jules Joslow
941-351-4812 joslow@ieee.org

GOLD: Dennis Trask, d.trask@ieee.org (813) 366-4201

PACE: Scott Haynes, Honeywell (727)-539-3358,
scott.haynes@ieee.org

James S. Lumia (813) 832-3501, jlumia@ieee.org
Richard Sanchez

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 Katkoori, USF, (813)-974-5737
katkoori@ieee.org

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

STUDENT BRANCHES:

Kosol Son, IEEE, kson@mail.usf.edu

Upavan Gupta, IEEECS (813)-974-1348, ugupta@csee.usf.edu

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

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

WEB MASTER: Michelle Chang, michelle.chang@ieee.org

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. The opinions expressed, as well as the technical accuracy of authors, advertisers or speakers published in this newsletter are those of the individual authors, advertisers, and speakers. Therefore, no endorsement by the IEEE, its officers, or its members is made or implied.

All material for THE SUNCOAST SIGNAL is due in electronic form by 1st Friday after the 1st Tuesday of the month preceding the issue month.

Address all correspondence to:

Dr. Paul Schnitzler, P S & A USF
30612 Nickerson Loop, Wesley Chapel, FL 33543
Telephone: (813) 994-2297; (813) 974-5584
E-MAIL: paulschn@ieee.org
The Signal, Copyright 2007

News (Editor's Column)

This is a big month. For students it is the end of the semester with celebrations and finals. And in the local Branch, things are getting more exciting with big plans for the fall. (More to come.)

For the FWCS there are four exciting events covering the range from Engineering Education, Gasification, Microwave Devices, and Women in Engineering—pretty much something for everyone. See p. 1 for more info on these.

In June, the PES meeting is coming and many are deeply involved in making it the best ever. Between technical sessions, courses, seminars, student posters, trips for both members and friends, this is a big meeting. We can still use help so check pp 4 and 5 for meeting info and then contact Jim Howard or Jim Beall (their email addresses are at the left). —PS



LightningMaster
Corporation

Richard E. Beatie, P.E.
Director Of Engineering
Structural - Bonding/Grounding - Surge

1351 N. Arcturus Ave. Clearwater, Fl. 33765	(800) 749-6800 Voice (727) 580-3598 Cell (727) 499-0138 Fax
www.LightningMaster.com	RBeatie@LightningMaster.com

[Web Site](#) [Email Me](#) [Map to Us](#)



IEEE LEADERSHIP WIRE

1. RECORD NUMBER NEW SENIOR MEMBERS IN 2006
The IEEE raised 2,608 members to senior member grade last year, the largest yearly increase ever, and 15 percent more than in 2005. This number also surpasses the goal of 2,400 elevations set by the IEEE Membership Development Committee. For more information and a regional breakdown of the statistics, read The Institute article at <http://bmsmail3.ieee.org:80/u/5760/50505050>.
2. **IEEE EXPERT NOW COURSES THROUGH IEEE XPLORE
IEEE members can now purchase individual courses from the IEEE Expert Now collection directly through the IEEE Xplore digital library. These courses feature the best of IEEE's educational content delivered in one-hour, online courses. The interactive, multimedia tutorials contain the latest information on emerging technologies and cutting-edge trends presented by the leading experts in IEEE fields of interest. CEUs for maintaining professional licensure and certifications are available upon successfully passing the assessment. All courses are peer-reviewed to ensure quality. IEEE members can purchase course for \$69.95, with unlimited online access for 30 days from date of purchase. See the course catalog, at <http://ieeexplore.ieee.org/modules/modulebrowse.jsp>.



Joint IEEE/ASME Lunch and Learn – Integrated Gasification, Combined Cycle Technology

- Date:** May 18, 2007 Registration & Lunch: 11:30am – 1PM
Speaker: Mr. Lloyd Webb, Engineering Manager, Polk Power Engineering & Technical Services, Tampa Electric Company.
Location: TECO Hall, Tampa Electric Company, 702 N. Franklin Street, Tampa—Space is limited to 35.
Cost: \$10 Members of IEEE or ASME members, \$20 Non-Members. Includes Lunch
RSVP: Online: <http://www.ewh.ieee.org/r3/floridawc/> (Select Reservations)
Questions: Tom Blair at 813-228-1111, ext 34407 or thblair@tecoenergy.com

The Polk Power Project IGCC plant was awarded \$120 million from the U.S. Department of Energy (DOE) for the development of a project using clean coal technology. Construction on Unit One began in 1994 on a site selected by a public Power Plant Siting Task Force comprised of 17 citizens from environmental groups, businesses, and universities in the Tampa Electric Company service area and throughout Florida. The objective was to ensure that local and statewide public issues and environmental concerns relative to new power plant development were adequately and accurately considered in selecting a suitable site for the new power plant. The 250-megawatt IGCC facility began commercial operation in the fall of 1996. For more information see RSVP link above.



Building Engineering Education Infrastructures – Sharing What Works

2007 Florida Engineering Education Conference

On May 4, 2007, the University of Central Florida in partnership with Northrop Grumman Laser Systems, the Florida Space Grant Consortium, the Society of Women Engineers and the Florida Department of Education will be hosting the second annual "Florida Engineering Education Conference". This year's conference theme is "*Engineering: the Invisible Profession - Recapturing Young Minds*". It will again be held at UCF's Student Union as "central in the State of Florida". The website (<http://partner.cecs.ucf.edu/FEE/>) for the conference is in the process of being updated and you will still be able to see highlights from last year's event. Our goal is to attract 150-200 K12 teachers, administrators, practicing engineers and other (informal) educators interested in learning more about pre-college engineering education in Florida.

Our first panel will include human resource directors from corporations and governmental organizations discussing their current hiring conditions and concerns about the future workforce. The second panel will include K12 STEM teachers who are actively integrating engineering into their curricula. The third panel will include representatives from industry, government and professional engineering organizations who will discuss their engineering education programs. We will then have four workshops to include presentations from Project Lead the Way and the Infinity Project. Please contact Bruce Furino at bfurino@mail.ucf.edu for particulars.



IEEE-USA Today's Engineer E-mail Update: April 2007

TWO PETITIONS FOR PLACE ON ANNUAL ELECTION BALLOT

Two IEEE members are petitioning to be placed on the 2007 annual election ballot. Fellow Ralph W. Wyndrum Jr. is running for 2008 IEEE president-elect, and Fellow Roger D. Pollard for 2008 vice president-elect, Technical Activities.

Eligible voting members who want to sign the candidates' electronic petitions can do so at <http://bmsmail3.ieee.org:80/u/6080/117878>. For more information, contact Carrie Loh, IEEE Corporate Activities, at "MailTo:c.loh@ieee.org"

MEDAL OF TECHNOLOGY NOMINATIONS SOUGHT

The Commerce Department is asking for nominations for the 2007 National Medal of Technology, the nation's highest honor awarded by the president to America's leading inventors and technological innovators. Deadline for nominations is 31 May 2007. For more information, visit: <http://bmsmail3.ieee.org:80/u/6086/117878>



2007 IEEE PES General Meeting

June 24 – 28, 2007

Marriott Waterside Hotel, Tampa, Florida USA



Meeting Overview

The Power Engineering Society is pleased to announce that its 2007 general meeting is scheduled for June 24-28, 2007 at the Tampa Convention Center and the Marriott Waterside Hotel in Tampa, Florida, USA *. The Tampa Convention Center is across the street from the Marriot Waterside Hotel and is a short walk. The conference, with its theme *Powering the Future, Today*, will provide an international forum to address policy, infrastructure and workforce issues.

We invite our colleagues from around the world to join us in Tampa for this memorable industry meeting. During the meeting you will have the opportunity to participate in many high-quality technical sessions and tours, committee meetings, networking opportunities and more. There will also be special student events and entertaining Registered Companion activities planned throughout the week.

To read more about this meeting, visit <http://ewh.ieee.org/r3/floridawc/pesias>. On-line registration is available at www.pesgm07.org.

GENERAL MEMBERSHIP MEETING

The General Membership Meeting will be held on Monday, June 25th at 8:00AM in the Convention Center. PES President John D. McDonald will provide an update about PES progress and activities of the past year. Candidates for the PES offices of President-Elect, Secretary and Treasurer for the 2008-2009 terms will each make a short presentation to familiarize you with their individual views and goals so you can make an informed decision when you vote during the PES elections this fall. (*Note: Meet the candidates face-to-face at a reception co-located with the Poster Session on Monday evening, 5:00-7:00PM in the Convention Center.*)

PLENARY SESSION

The plenary session will be held on Monday, 25 June, at 9:00 a.m., immediately following the general membership meeting in the Convention Center. A group of notable, highly-respected speakers will address topics of major concern in the power engineering world from various perspectives

TUTORIALS

The Power Engineering Education Committee will present a number of tutorials during the meeting. Below is a list of some of the tutorials available.

- ◆ Power Grid Blackouts: Causes and Mitigation
- ◆ Asset Management - Maintenance and Replacement Strategies
- ◆ Harmonics Modeling and Simulation
- ◆ Probabilistic T&D System Reliability Planning
- ◆ Distribution Automation
- ◆ Power System Stabilizer

STUDENT PROGRAM

There will be an exciting program for IEEE PES student members including the student/faculty/industry luncheon and a poster contest. The Poster Contest is closed; many very interesting entries have been received. We are still accepting requests for the 2007 IEEE PES General Meeting Student Housing Program. For more information, please visit <http://pc-ee100-2.nmsu.edu/pesgm07/>. For questions, please contact Prof. Joydeep Mitra (jmitra@nmsu.edu), Prof. William (Bill) Rosehart (rosehart@ucalgary.ca) or Ganesh Kumar Venayagamoorthy (gkumar@ieee.org).

Students members are invited to participate in all other aspects of the general meeting as well. Students must register for the meeting at a nominal fee in addition to registering for the student program at no charge, Please note that student registration requires filling in a form online in addition to the meeting registration form. See Registration for info.



2007 IEEE PES General Meeting

June 24 – 28, 2007

Marriott Waterside Hotel, Tampa, Florida USA



SPONSORSHIPS

The IEEE PES 2007 General Meeting Local Committee welcomes contributions and support of this meeting. For a list of specific Support Opportunities, please visit our website at <http://ewh.ieee.org/r3/floridawc/pesias/>.

General Contributions

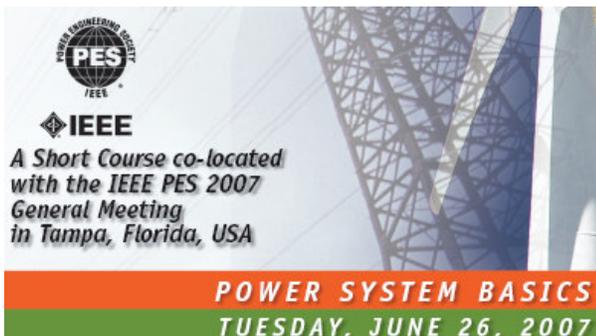
General contributions to the 2007 IEEE PES meeting of \$1,000 or more will be acknowledged on signage placed in at least two of the following key meeting locations: registration/information area, registration/information foyer, paper sales area, hotel sign area, meeting room cluster lobby.

Custom Opportunities

We'd be happy to plan a customized support package that suits your needs and budget. Please contact Jim Howard, PES General Chair, at 863-834-6506 or j.howard@ieee.org.

SHORT COURSE ON POWER SYSTEM BASICS

The IEEE power engineering society is please to offer a one-day short course in Power Systems Basics for **Non-Engineering Professionals** to be held concurrently with the PES general meeting. Policy makers, regulatory and energy agency leaders, power marketers and brokers, and those in the legal professions who deal with energy issues would benefit greatly from this short course.



The course will provide non-engineering professionals who work within the power industry a better understanding of electric power systems, planning, operations and regulatory frameworks, enhancing communication with engineers and decision-making capabilities. Concepts are explained in simple to understand terms. Conference registration is NOT required to attend. Please contact the Local Committee for a discount if you will be sending more than six representatives to this short course at j.howard@ieee.org.

HOSPITALITY SUITES

Hospitality Suite Registration: \$500.

Your own signs stating the location and time of your hospitality suite will be allowed to be displayed at key meeting information points during the conference. *Note: All hospitality suites associated with the meeting must be registered. For more information, please contact Jim Beall at J.beall@ieee.org.*

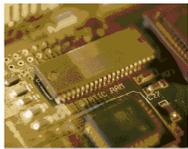
INTERNET CAFÉ

There will be six computer terminals. Attendees will be able to check their email and the Internet during the conference. Attendees will see your logo on each computer screen. Contribution for five days for six terminals is \$10,000; for three terminals is \$6,000.

Please contact Jim Beall at J.beall@ieee.org.

VOLUNTEERS NEEDED.

In order to host this outstanding meeting, we will need a multitude of volunteers. These volunteers will be doing functions such as room monitors, registration, bag distribution, runners, etc. If you would like to help your Section and Chapters, please contact Quang Tang, at Q.tang@ieee.org.



Siliconexion, Inc.

FPGA Design and Verification Experts

Siliconexion offers robust, on-time electronic design consulting services by experienced senior level professionals.

Applications Include:

- Telecommunications / Data Communications
- Aerospace and Military
- Embedded Computer Systems

Services Include:

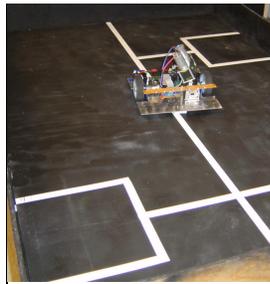
- FPGA / CPLD Design and Verification
- ASIC to FPGA Conversions
- Training for FPGA Design, VHDL, Test Benches
- Digital and Analog Board-level Hardware Design
- Embedded Systems Software Development
- High Speed Signal Integrity Analysis

Cost Effective sub-system or turnkey product development

Phone: 727 596-1990

E-mail: info@siliconexion.com

www.siliconexion.com



**FWCS News:
SOUTHEASTCON
2007 AWARDS
USF Competes**

SOUTHEASTCON 2007 holds a series of competitions for the student branches. In Richmond VA early April, students from all over Region 3 gather to face off with websites, software, research papers ethics and more. The Hardware Competition drew our USF team and their robot basketball player. While our machine was very well conceived, we had to watch as others took the prizes.

As painful as that was, participation was a valuable and exciting experience. The team returned home psyched to help next year's team do better. So "Wait till next year!"

The top schools in the Hardware Competition were: First Place: Georgia Institute of Technology; Second Place: University of Central Florida; and Third Place: Virginia Military Institute.

In other news, the USF Branch has elected officers for next year and held a "year-end" picnic jointly with Eta Kappa Nu and the European Students group.

The Senior Banquet was also in April where the Senior Projects Awards were announced. More on these events next month.



**IEEE FWCS Women in Engineering
Chapter Meeting**

**IEEE Women
in Engineering**
www.ieee.org/women

Date/Time: Monday, May 14, 2007, 6:00pm

Place: University of South Florida – ENB 261

Meeting Topics:

- Discuss Project to Obtain \$200 Startup Affinity Fund
- Announce/Plan forthcoming activities
- Conduct WIE video forum

IEEE Women in Engineering is dedicated to facilitate the development of programs and activities that promote the participation of women in engineering programs, to promote IEEE membership and retention of IEEE women members, and to enhance the career advancement of women in the profession.

Join us as we move forward to establish an active FWCS Women-in-Engineering Chapter!

→ Members and Non-members of WIE are welcome to participate ←

Evolution and Recent Advances in RF/Microwave Transistors
Dr. Juin J, Liou - University of Central Florida
Dept. of Electrical and Computer Engineering

MTT/AP/ED Chapter Meeting



Wednesday, May 2, 2007, 6:00 PM

ABSTRACT:

The development of RF/microwave transistors went almost unnoticed until early 1980's because, unlike Si VLSI, there were no mass consumer markets for such devices. Most applications for RF/microwave transistors had been military or exotic scientific projects. Recently, this has been changed drastically due to the explosive growth in the civil wireless communications and internets.

This talk covers the evolution and current status of semiconductor devices for RF/microwave electronics systems. Important background, development and major milestones leading to modern RF/microwave transistors are first presented. This is followed by the discussions of the relevant device physics and figures of merit. Different transistor types, including Si-, III-V-, wide bandgap-based, and visionary nano-scaled devices are addressed. Finally the outlooks of RF/microwave semiconductor devices and their future applications are given.

BIOGRAPHY:

Juin J. Liou received the B.S. (honors), M.S., and Ph.D. degrees in electrical engineering from the University of Florida, Gainesville, in 1982, 1983, and 1987, respectively. In 1987, he joined the Department of Electrical and Computer Engineering at the University of Central Florida, Orlando, where he is now a Professor. His current research interests are micro/nanoelectronics computer-aided design, RF device modeling and simulation, and semiconductor manufacturing and reliability. Dr. Liou has filed 3 patents and published 6 textbooks, more than 200 journal papers, and more than 150 papers in international and national conference proceedings. He has been awarded more than \$6.5 million of research grants and has held consulting positions with research laboratories and companies in the United States, China, Japan, Taiwan, and Singapore. In addition, Dr. Liou serves as a technical reviewer for various journals and publishers, general chair or technical program chair for many international conferences, and regional editor (in USA, Canada and South America) for the Microelectronics Reliability, an international journal published by Elsevier Science.

Dr. Liou received ten different awards on excellence in teaching and research from the University of Central Florida (UCF) and six different awards from the IEEE Electron Device Society (EDS). Among them, he was awarded the UCF Distinguished Researcher Award three times (1992, 1998, 2002), UCF Research Incentive Award two times (2000, 2005), and IEEE Joseph M. Biedenbach Outstanding Educator Award in 2004 for his exemplary teaching, research, and international collaboration. His other honors include Fellow of the IEE, Cao Guang-Biao Endowed Professor of Zhejiang University, China, Consultant Professor of Huazhong University of Science and Technology, Wuhan, China, Courtesy Professor of South China University of Technology, Guangzhou, China, IEEE EDS Distinguished Lecturer, and National Science Council Distinguished Lecturer. Dr. Liou is the IEEE EDS Vice-President for Regions/Chapters, IEEE EDS Treasurer, IEEE EDS Finance Committee Chair, elected member of the IEEE EDS Administrative Committee, member of the IEEE EDS Educational Activities Committee, and member of the IEEE EDS Ex-Officio Administrative Committee.

LOCATION:

TRAK Microwave Corporation
4726 Eisenhower Blvd., Tampa, FL 33634

PLEASE RSVP by April 23rd :

Leave name & country of citizenship with Ken O'Connor at
(813) 901 7246 or koconnor@trak.com

Brain Teaser Challenge Column

—By Butch Shadwell

April BTC Last month I discussed one of the many new medical technologies I have developed. The problem involved a thermal issue. A "...device is using 3 watts of power and it will be operating for 10 minutes. If I start with cooling water at 20 degrees C, how much water do I need to make sure that the fluid never gets above 38 degrees C? Assume that all of the heat from the instrument is dissipated uniformly to this volume of water."

One of the interesting properties of matter is that different compounds require different amounts of heat in order for the temperature to rise to the same degree. Water has a fairly high specific heat, so it is a good choice as a heat sink. I guess the first thing we need to know is that a calorie is the amount of energy it takes to raise the temperature of one gram of water one degree centigrade. For the sake of this discussion we will say that 1 cc of water is 1 gram of water. And 1 calorie equals 4.184 joules. Finally we need to know that a joule is a watt-second. So, a 3 watt device running for 10 minutes dissipates 1800 J. This is equal to 430 calories. Since we know that the water is only allowed to rise by 18 degrees C, we can divide and find that it takes 23.9 cc of water to meet our spec, or 0.81 fl.oz. Some might have been surprised by this small amount, but I bet you already knew that.

May BTC "What kind of name is Bongo for a young man?" This is the question that our hero said to himself at least ten times a day. He thought his parents must have been on some amazing hallucinogen when they made that decision. To condemn their only son to going through life baring the embarrassment of having to explain to everyone he met, that yes his real name was actually Bongo. He made up a little story to explain it. Something about drums in the delivery room and then when he arrived the doctor swatted him on the backside... It didn't really make sense until he added the bit about the probable drug use.

At 23, Bongo found a discarded match book with an ad on the inside cover. "Learn-to-Design Circuitry" was the salutation. There was a small line drawing of some kind of electronic circuit and the question, "Would you like to be able to design electronic circuits like this one?" Bongo had never seen an electronic schematic before, but there was an immediate attraction, and somehow he knew that he wanted to be able to make drawings like this too. But then doubts started to pop up. Could he ever learn to draw those squiggly lines and shapes, and would he have to learn other things like his 12 x 12 times tables? The young man's brain was spinning.

Nolan Power Group Power Quality Specialists



Sales & Service

Batteries / Chargers / UPS

PM Service / Capacity Testing

Emergency Call Out

Phone: 954-333-3040

e-mail: john.todora@nolanpower.com

**Authorized EnerSys Representative
For the State of Florida**

Today's Engineer Online

NEW WAYS TO LEVERAGE YOUR IP

You don't need to be a huge company to take advantage of the benefits of intellectual property ownership. IP such as copyrights, trademarks and patents may not be hard goods that you can sell, but they are investments. With the right planning and development, small businesses, sole-proprietorships, and even individuals can earn money for years based on their initial investments of time, creativity and expertise. Read on at: <http://bmsmail3.ieee.org:80/u/6078/117878>

BTC cont.

After having completed this correspondence course, Bongo got a job with a local power utility as a distribution design engineer. His first assignment involved a reactive load comprised of a 500 uF capacitor in series with a 10 mH coil. On the US power grid, would this load seem capacitive or inductive? Ignore the resistive components for now. To get an A+ in this class, figure out the impedance angle if the resistance is 100 ohms. Have fun.

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.

(Advertisement)



Spring 2007 Battery Maintenance Seminar

You Are Invited to Attend

Nolan Power Group's 2007 Central Florida Spring Battery Seminar

Seminar

Course Topics Include:

- Battery Overview
- Installations
- Maintenance
- Visual Inspections
- Corrective Actions
- Battery Problems
- Discharge Testing
- And More

CEU Credits Available

Registration

Fee:

\$675 per Person
\$600 for 4 or more

Registration

Due By:
May 15, 2007

Conducted by *Marco Migliaro, PE* a recognized expert in the field of **Emergency Power Systems** and **Stationary Technology**, the two-day course focuses on applications, battery types, preventative maintenance and more. In addition, the course provides an opportunity for gaining a greater depth of knowledge of stationary battery visual inspection, problem identification and corrective actions. CEU credits are available for those who attend.

June 4 – 5, 2007

8:00 AM to 5:00 PM

Comfort Inn & Suites, 3520 Highway 98 North, Lakeland, FL 33809

Name: _____

Company: _____

Address: _____

City: _____ State: _____ Zip: _____

Tel: _____ Fax: _____

Please Register Me for the Battery Seminar

Method of Payment: Credit Card _____; PO#: _____

Email: _____

**Fax Completed form to
Nolan Power Group at 954-333-3041**

For More Information Please Call or E-mail

Mary Ellen Insley at 954-333-3042

maryellen.insley@nolanpower.com

“THE POWER SPECIALISTS”

May, 2007 Calendar of Events (For more information see P. 1 *Inside this Signal...*)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
29	30	1 <u>5:30 pm</u> <i>IEEE FWCS ExCom TECO Tampa</i>	2 <u>6 pm MTT</u> <i>Microwave Transistors TRAK Tampa p. 7</i>	3	4 <u>FL Eng. Education Conference</u> <i>UCF p. 3</i>	5
6	7	8	9	10	11	12
13	14 <u>6 pm:</u> <i>Women in Engineering USF Tampa p. 6</i>	15	16	17	18 <u>11:30 am:</u> <i>Integrated Gasification TECO Tampa p. 3</i>	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2

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



*IEEE/PES General Meeting, June, 2007 Tampa!
—Plan now to attend!*

NON PROFIT
ORG
U.S. POSTAGE
PAID
TAMPA, FL.
PERMIT
No. 1197

DATE SENSITIVE MATERIAL. DO NOT DELAY

Change of address? IEEE Web Contact Update <http://www.ieee.org/membership/coa.html>
Or send address changes including your name, IEEE Member number and all pertinent information to:
IEEE, 445 Hoes Lane, P.O. Box 1331, Piscataway, NJ 08855-1331 or call (800) 678-4333
Or fax your address changes to (732) 562-5445