



# THE SUNCOAST IEEE SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

<http://ewh.ieee.org/r3/floridawc>

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December 2002

## An Update of IEEE Standards, Standards is a Global Business Joint Section & PES/IAS December Meeting



Date/Time: Wednesday, December 4, 2002, Noon  
Speaker: Ben C. Johnson, President IEEE Standards Association  
Location: TECO Hall, TECO Plaza, 702 N. Franklin Street, Tampa  
RSVP: Online at: <http://www.ewh.ieee.org/r3/floridawc/>  
Or by email to Jim Beall at [j.beall@ieee.org](mailto:j.beall@ieee.org)  
Price: Members \$10 Non-members \$20 Student Members \$5 includes lunch. Make checks payable to IEEE-FWCS.

In an industry that is highly dependent on carefully written standards, Ben C. Johnson has been a leader at all levels of standards development, from the working group level to approval of proposed standards.

A Fellow of the IEEE, Mr. Johnson is the current President of the IEEE Standards Association. Among his many other Institute activities, he has chaired the International Committee, the IAS Standards Department, and the IAS Standards Projects Committee. He is a Founding Member of the Standards Association. His honors include a Best Paper Award from the Instrument Society of America, the PCIC Russell Miles and David C. Azbill awards and 2002 IEEE Charles Proteus Steinmetz Award.

As Chairman of the Industry Application Society (IAS) Standard Department, Mr. Johnson reorganized the department to involve all of the IAS's committees in the standards process. This gave all committees an equal voice in the input to the National Fire Protection Agency National Electrical Code (NEC) process, unifying the IAS and ultimately the IEEE input to the NEC.

Mr. Johnson's leadership was also indispensable in the development of IEEE Standard 515, Recommended Practice for the Testing, Design, Installation, and Maintenance of Electrical Resistance Heat Tracing for Industrial Applications. This standard resulted in two companion standards, IEEE standards 515.I and IEEE Standard 844. Mr. Johnson also advanced the International Electro-technical Commission (IEC) international standard based on IEEE Standard 515. Serving in various capacities, Mr. Johnson continues to lead the international technical community on the subject of surface heating. As United States delegate to the IEC, Mr. Johnson is the Convener for Maintenance Team 18, Electrical Equipment in Flammable Atmospheres, Electrical Resistance Trace Heating. He is also Technical Advisor for IEC TC27, Safety in Electroheat Installations.

Ben C. Johnson was born on 25 May 1939, in Baton Rouge, Louisiana. He has worked for Thermon Manufacturing Company for 33 years, in a number of capacities, including Vice President of North American Sales, Vice President of Engineering and Vice President of Research and Development. Currently he is the Senior Vice President of Global Standards. Mr. Johnson holds eight patents in the field of surface heating and is responsible for numerous product innovations. He has authored or co-authored 11 papers for various societies.

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## Chair's Comment

By Quang Tang



With this issue of the *Signal*, my two-year term is now ending and it is time for me to step down and turn the leadership gavel over to our new Section Chair, Mr. John Conrad.

I have tremendously enjoyed working with the Chapter and Section officers who have helped make my term as Chair so rewarding and successful. From technical conferences, seminars & meetings, teacher in-service programs, science fair participations, celebrating engineering banquets to student senior banquets, without the support of our excellent executive committee, these accomplishments would never happen. I would like to thank all members of our executive committee and volunteers who continue to make our Section stand out for its excellence.

If you would like to be part of this executive committee or just want to see how this committee operates, please come to our monthly meeting. It is usually on the first Tuesday of the month. You will have an opportunity to observe the work that goes on behind the scenes by our very dedicated volunteers.

## Students' Corner

Homecoming Success! IEEE Student branch members were out in full support of the USF Bulls on November, 9th as they took on Memphis. Student members wanting to participate in homecoming festivities kicked off the afternoon with a massive tailgate, and student branch officers would like to thank all those who made the event a memorable one.

While the Student Branch has been somewhat dormant over the past few months, we would like to assure our members that we are very much active. Early this year we began a series of workshops geared toward aiding our members in the coursework. Utilizing the talents of some of our members, the IEEE student branch is hosting a series of software workshops, offering students tutoring in PSpice, MathCAD, and MatLab software.

As we are coming to the end of the semester, the Senior Banquet is fast approaching, and we would like to wish all members graduating this semester the very best. Once again, the IEEE student branch is looking for local corporate sponsors to help host this event, and interested persons should contact us at [ieee@eng.usf.edu](mailto:ieee@eng.usf.edu).

Our officers for the current year are as follows:

President - Jeremy Baksh  
Vice-President - Angela Alexander  
Secretary - Amy Yen  
Treasurer - Tracey Ballard

# The Dangers and Hazards of Electrical Distribution Systems

Presented by PES/IAS Chapter



Speaker: Don Zipse, P.E. IAS Distinguished Lecturer  
When: Wednesday, December 11, 2002  
Time: 11:45 A.M.  
Where: TECO Hall, TECO Plaza, 702 N. Franklin Street, Tampa  
Price: Members \$10 Non-members \$20 Student Members \$5 includes lunch  
RSVP: Reservations are required. Reserve on-line at  
[http://www.ewh.ieee.org/r3/floridawc/pes\\_titles.html](http://www.ewh.ieee.org/r3/floridawc/pes_titles.html)  
Call Art Nordlinger at 727-596-9319 for more information.



The electrical utilities' multi-grounded neutral distribution systems are killing cows at an alarming rate - 5 cows per day on one dairy farm. How soon will it be before we are able to confirm humans dying due to the electrical distribution systems using the earth as a return path? In one legal case an utility admitted that 70% of the continuous flowing hazardous return neutral current was entering the earth flowing uncontrolled over and under the earth. The sources of this dangerous flow of current and the methods for elimination will be discussed. The unique method used to detect the hazardous uncontrolled flow of current over the earth will be disclosed.

Mr. Donald W. Zipse, P.E. and IEEE Life Fellow has been studying stray current since 1970. He presented his first paper on stray current at the I&CPS May 1972 meeting. In 1999 he presented two papers subtitled The Shocking Swimming Pool and The Shocking Shower. Since November 2001 he has been involved with dairy farms and the hazardous stray current flowing uncontrolled from the utilities distribution systems.

## PES/IAS Officers For 2003

**Chair – Art Nordlinger**

**Vice Chair – Ghaff Khazami**

**Secretary/Treasurer – John Stankowich**

## Upcoming PES/IAS Meeting!

PES/IAS has scheduled a tour the Pinellas waste to energy facility in St. Petersburg. This facility generate 75 MW from tons of waste. The plant is considered the largest in North America to provide energy from over 3000 tons of waste daily. At the facility conference room while you are lunching the speakers will provide detailed information about the energy plant then, the tour will begin. Mark your calendar for January 21st, 2003 at 11:45 AM to 1:15 PM. Ghaff Khazami is coordinating this meeting, if you have any questions call at (813) 960-0990.

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## Upcoming Life Member & Section Meeting!

We are in the early planning stages for the next meeting to be held in the Sarasota Area. It will be towards the middle to end of Jan. 2003 and feature Jim Ruggiero reviewing some of the late advances in Biomedical Engineering. More Details in Jan SIGNAL.

## FWCS Signal Processing & Communications Society Members

By Rich Crowley

It is with great pleasure that I announce that Bror Peterson will be taking over as Chair of the local society. I have enjoyed my two years leading the society. Bror has been the Co-Chair for most of my term and has done a wonderful job. We will be looking for someone to fill the Co-Chair position and are asking for volunteers.

# Electric Power System Simulation using ETAP PowerStation

## PES/IAS Winter Seminar



Date: Friday, December 13, 2002

Time: Registration and Continental Breakfast 8:30 – 9:00 AM  
Seminar 9:00 AM – 4:00 PM

Speaker: Tanuj Khandelwal, MSEE, Operation Technology, Inc.

Location: Tampa Electric Company, Production Services Center  
6944 U.S. Hwy 41 North  
Apollo Beach, FL 33572

RSVP: Online at: <http://www.ewh.ieee.org/r3/floridawc/>  
Or by email to Karyn Hinton at: [karynh@etap.com](mailto:karynh@etap.com) or 800-477-ETAP

Price: Members / Users \$25.00; Non-members \$40.00; Students \$10.00  
Lunch will be provided. Make checks payable to IEEE-FWCS.



Tanuj Khandelwal of Operation Technology, Inc. (OTI) will present a training seminar for electric power system simulation using ETAP PowerStation. Tanuj is a member of IEEE and a certified ETAP instructor for OTI. He has been involved in the design, support, and testing of ETAP PowerStation for more than two years. He has taught numerous courses on ETAP PowerStation throughout the United States.

### Agenda:

- Overview of modeling electrical power systems via one-line diagrams.
- Load Flow, Voltage Drop, Panel Design, and Short-Circuit Analysis.
- Arc-Flash Boundary Definition Based on NFPA 70E.
- Modeling of Protective Device Coordination.
- Advanced Simulation Overview including Harmonics, Motor Acceleration and Transient Stability.

Price includes continental breakfast and boxed lunch. Space is limited to 30 participants. Register early.

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## Local Volunteer Network Helps Find Employment

by Richard Martino

The Professionals Network of Tampa Bay was formed as an outgrowth of a program at the Hillsborough One-Stop Center in Tampa and has helped many find jobs by providing marketing, networking, career education and support services. We started in April 2002 with a handful of unemployed professionals and today are approaching 1,000 members spanning the seven-county Tampa Bay region. We meet every Thursday morning from 8:30 AM to 11:00 AM at the Workforce Tampa Center, 9215 North Florida Avenue. All meetings offer the opportunity to meet and share leads and, most importantly, contacts within local businesses plus support for the unemployed or underemployed and advice on how to succeed at the job search quest. Most meetings also have a guest speaker, outside experts in the human resources, recruiting or business arena. Our grassroots effort dedicated to “Keeping Local Professionals, Local” by linking talent with career opportunities is being supported by area businesses, recruiters, educational institutions and government agencies. For more information on our innovative program, go to <http://www.pronettampabay.org>, which is also linked from our IEEE Florida West Coast Section’s Job Service web page at <http://www.ewh.ieee.org/r3/floridawc/jobs.htm>.

# Reed Solomon for Design Engineers

Presented by Computer Society Chapter

Piazza and soft drinks will be provided by Digital Lightwave

Date/Time: December 10, 2002, 6:00 PM

Speaker: Mr. Joseph H. Keith

Location: Digital Lightwave, Inc.  
15550 Lightwave Dr., Clearwater, FL 33760  
(727) 442-6677

RVSP: [www.pl-ug.org](http://www.pl-ug.org)

Reed Solomon is a Forward Error Correction (FEC) code used in satellite and space communication, RAID and hard disk controllers, music CD's, HDTV, cell phones. A complete Reed Solomon encoder and decoder implementation in a FPGA will be covered. The Galios Field definition and the expansion of the generator polynomial will be covered. Addition and multiplication in the Galios field is presented. The decoder design includes the calculation of the syndromes, the Berly Kamp algorithm, the Chien search, and the Forney algorithm.

## Presenter:

Joseph H. Keith graduated from Auburn University with a BS in EP and a MS in EE. He completed the course work for a PHD in EE. at Auburn. Further advanced course work at the University of Tennessee and the university of Alabama. He has more than forty years of design experience and has worked as an independent consultant for the past twenty years.

## Directions:

From Tampa I -275 South (towards St. Petersburg). Exit to the right at Exit 18, (Hwy 688 / Ulmerton Rd). Continue on Ulmerton Rd. - Stay in the right hand lane. Vear to the right as Ulmerton Rd merges into Roosevelt Blvd. You will now pass through three (3) traffic lights and under the Bayside Bridge overpass. Lightwave Dr is immediately on your right after the third light, just beyond the overpass. Follow Lightwave Dr to the end and park in the parking garage. Enter through the front entrance.

## 2003 Review Seminars For PE Electrical and EIT/FE April 11 and 12 Examinations

**Review seminars for the PE (Electrical) and Engineer In Training / Fundamentals of Engineering (EIT/FE) exams will be held:** Mondays, January 27 thru March 31 for the EIT/FE Exam & Thursdays, January 30 thru April 3 for the EE Exam. Seminars are conducted from 7-10 P.M. (Monday or Thursday) for ten weeks. The registration fee is \$325 and includes text. The seminars will be held on the main USF campus in Tampa and will also be available via Internet.

To register, contact: Alan M. Keith, P.E., PO Box 14042, (EC37), St Pete, FL 33733.

[Alan.Keith@pgnmail.com](mailto:Alan.Keith@pgnmail.com)

Phone (727) 384-7937, FAX (727) 384-7865

Pinellas Chapter, Fla. Engineering Society



# CELEBRATE ENGINEERS WEEK BANQUET

Date: Friday, February 7, 2003

Time: 5:30PM Social, 7:00PM Dinner, 8:15PM Program

Location: A La Carte Event Pavillion (813) 381-5390  
4050 Dana Shores Dr., Tampa, FL 33634

Topic: International Space Station

Speaker: Representative from NASA

Emcee: Will be local Celebrity

Awards: Engineer of the Year, **Teachers of the Year**,  
Engineering Student of the Year

Entertainment: Caricaturist, Magician, Music through out the evening

Door Prize: Given through out the evening



Mark your calendars NOW to attend the third annual Celebrate Engineering Banquet, to be held Friday February 7, 2003 at the A La Cart Pavillion in Tampa (easy access off I-275 and near the Tampa airport). This is a very elegant location, the likes of which you have never before experienced. To check it out go to their website at [www.alacartpavilion.com](http://www.alacartpavilion.com) to see some pictures!

The Banquet Committee, comprised of members from the 5 participating engineering Societies, is working hard and diligently to put together a memorable program of entertainment, guest speaker, awards program for exemplary local science/math teachers and outstanding engineers of each Society, wonderful door prizes, and great food!

As a bonus, many local engineering firms will be sponsoring a booth to exhibit their wares. If your company would like to help promote your products to the Tampa Bay area by sponsoring a booth, please contact Quang Tang at [q.tang@ieee.org](mailto:q.tang@ieee.org) or (813) 739-1222.

Watch for registration information details in a later issue of the Signal, as the Committee finalizes the details for this elegant banquet. If you attended last year's affair you already know how wonderful it was! If you missed it, ask someone who attended - they will encourage you to attend! The Committee is working diligently to make this year's affair even more memorable! Mark your calendars NOW for Friday February 7, 2003, for a memorable event you will not forget!

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## Be the first engineer a teacher or student has ever met!

By Lynn Murison, Outreach Coordinator, IEEE Educational Activities, [www.ieee.org/organizations/eab/](http://www.ieee.org/organizations/eab/)

IEEE Educational Activities has joined with the City College of New York, USA (CCNY) in a nationwide program called CityTech: Stuff that Works, to support teachers in grades K-6 in their efforts to teach engineering concepts and technology. CCNY has developed a series of curriculum units detailing low-cost, hands-on projects. IEEE members contribute by providing responses to questions, via email about the technical aspects of the concepts presented, how to design an activity for classroom use, and sometimes about themselves. Very often this is the first contact a teacher or a student has ever had with an engineer.

Read about the project, responses from teachers and engineers, and how you can volunteer, at <http://www.ieee.org/organizations/eab/precollege/citytech/> or contact Douglas Gorham, IEEE Educational Activities Pre-college Manager, [d.g.gorham@ieee.org](mailto:d.g.gorham@ieee.org).



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## December 2002 Calendar of Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3 <i>IEEE FWCS EXCOM Meeting at 5:30pm TECO Plaza</i>	4 <i>Joint Section &amp; PES/IAS Meeting Standards is a Global Business at Noon</i>	5	6	7
8	9	10 <i>Computer Society Chapter Meeting at 6PM "Reed Solomon for Design Eng."</i>	11 <i>PES/IAS Meeting on Electrical Distribution Systems, 11:45am</i>	12	13 <i>PES/IAS Winter Seminar ETAP PowerStation 8:30am-4:00pm</i>	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

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