

SUNCOAST

SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

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

Volume 44 - No. 2

February 2001

February Joint Section & PES/IAS Meeting

Engineers Week Luncheon

Don't Miss This Special Event

Should Florida Expect Rolling Blackouts Similar to California?

DATE/TIME: Thursday, February 22, 2001, 12 Noon (Lunch will be provided)

LOCATION: Tampa Electric Company - TECO Hall

702 N. Franklin St. (Downtown Tampa)

RESERVATIONS Contact Paul Leal at 813-630-6334 (*Bring a guest; non-members welcome!*)

REQUIRED: (Seating is limited to 40, please call early)

SPEAKER: Mr. John Boucher,

Vice President, Regional Transmission Organizations Business Area

LUNCH COST: \$10 Members, \$5 IEEE Students, \$20 Non-Members

Mr. Boucher will be providing us an update on the Regional Transmission Organizations (RTO's) across the nation and the effect they are having on our electric system reliability. This will include information on recent Federal Energy Regulatory Commission (FERC) filing pertaining to these proposed RTO's. Mr. Boucher will also be discussing the situation in California and its impacts on the industry, as well as the consumers. He will be providing insight into some of the key questions on the RTO's - Will our lights stay on? Will the costs for electricity go up? What impacts will this have on the residential customer? What impact to the industrial and commercial customers? Please plant to join us for the very informative meeting. (Note: Seating is limited, make your reservations early!)

Speaker:

Mr. John Boucher has 32 years of experience in the electric utility industry. He has held executive positions with computer applications and systems suppliers and has had responsibility for division management, project management, engineering, and marketing. His current duties include responsibility for maintaining KEMA Consulting's leadership in consulting on the formation and operation of RTOs in North America. Manages a center of competence for support of world-wide consulting for RTO-like entities and for strategic planning, staffing, training, and marketing support. He interacts with senior managers of ISOs/RTOs where KEMA is presently active, such as New York ISO, MISO, ERCOT, ISO-NE, and IMO, to assure that KEMA Consulting is meeting all the ISOs'/RTOs' filing, process, operations, and planning needs. Additionally, he supports marketing in achieving additional customers as new RTOs are being formed and is presently Project Manager for the formation of RTO West.

2001 IEEE EXECUTIVE COMMITTEE FLORIDA WEST COAST SECTION

CHAIRMAN: Quang Tang

Seminole Electric (813) 739-1222

q.tang@ieee.org

VICE CHAIRMAN: John Twitchell, PE

Seminole Electric (813) 739-1234

j.twitchell@ieee.org

SECRETARY: Jules Joslow

ElectroMark, Inc. (800) 274-2383

jjoslowemi@aol.com

TREASURER: John Conrad

Windsor Engineering, Inc. (813) 926-4004

john.conrad@ieee.org

SIGNAL EDITOR: Quang Tang

Seminole Electric (813) 739-1222

q.tang@ieee.org

AWARDS: John Twitchell, PE

Seminole Electric (813) 739-1234

j.twitchell@ieee.org

BYLAWS: Richard Beatie, PE

Scientech (727) 669-3068

rbeatie@scientech.com

EDUCATION: Dr. Rudolf E. Henning, PE

University of South Florida (813) 974-4782

henning@eng.usf.edu

PACE: Mark D. McKeage, PE

Florida Power Corp. (727) 826-4393

mark.d.mckeage@fpc.com

MEMBERSHIP: Albert D. Rosenheck

Consultant (941) 395-2117

rosenheck@aol.com

STUDENT BRANCH CO-ADVISORS:

Dr. Paris Wiley, USF (813) 974-4743

wiley@eng.usf.edu

Dr. Worth Henley, USF (813) 974-2689

henley@eng.usf.edu

STUDENT BRANCH MENTOR: Jim Howard

Tampa Electric Co. (813) 630-6233

j.howard@ieee.org

STUDENT BRANCH CHAPTERS: (813) 974-4776

 $Daniel\ Faria-\underline{dfaria@eng.usf.edu}$

Steven Smith - <u>steven.smith@computer.org</u>

PES/IAS CHAPTER: Paul Leal

(813) 635-1411

ST053@tecoenergy.com MTT/AP/ED CHAPTER: Ed Grimes

Votron ATC (727) 794 200

Xetron ATC (727) 784-3998 x158

Edg@xetron.com

COMP/AESS CHAPTER: Richard Beatie, PE

Scientech (727) 669-3068

<u>rbeatie@scientech.com</u> SP/COMM CHAPTER: Joe K. Winner

Raytheon Systems Co. (727) 302-3162

jkwb@eci.esys.com

Web Page http://ewh.ieee.org/r3/floridawc

WEB MASTER: Richard Beatie, PE

rbeatie@scientech.com

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 by the Friday following the 1st Thursday of the month preceding the issue month. Address all correspondence to:

Quang Tang - Seminole Electric Cooperative, Inc. P.O. Box 272000, Tampa, Florida 33688-2000 Voice: (813) 739-1222 Fax: (813) 739-1344 E-MAIL: q.tang@ieee.org
The Signal, Copyright 2001

Chair's Comment

by Quang Tang

We have a busy month in February. First is the celebration of National Engineers Week 2001. All engineers celebrate this national recognized week during the week of February 18-24. At the local level, Florida West Coast Section of IEEE along with Association for Facility Engineers (AFE), American Society of Mechanical Engineers (ASME), and Society of Logistic Engineers (SOLE) organized an annual Engineers Week banquet for Saturday, February 17, 2001, at Ramada Airport Inn in Tampa. These Societies have agreed to recognize Teachers of the Year from Pinellas, Hillsborough, and Pasco Counties at the banquet. These Societies will also recognize their Societies' Engineer of the Year, and Engineering Students of the Year. In addition we will have a fun evening of good dining, and entertainment from local magician and caricaturist. Please see page 5 in this issue for more banquet details.

As I am writing this article, California is experiencing rolling blackouts. The Section along with Power Engineering Society invite Mr. John Boucher, Vice President of Regional Transmission Organizations Business Area, to present us with an update on the Regional Transmission Organizations (RTO's) across the nation and the effect they are having on our electric system reliability. Seats are limited so make your reservation now.

Also in February is our first teacher in-service series program being presented to Hillsborough County School District. Mr. John Luce will present the program to teachers and demonstrate how to apply engineering principles to build working models using common household items. Please contact Mr. Doug Gorham at d.g.gorham@ieee.org if you like to help.

MTT/AP/ED Chapter will bring in Dr. Michael Heutmaker of Lucent Technologies Bell Laboratories, Princeton, New Jersey in February to present Digital Modulation, RF Test, and Wireless Communications topics.

I hope to see all of you at the Engineers Week Banquet on Saturday the 17th.

Receiving Your Electronics Signal

by John Conrad

Each month the Electronics version of the Suncoast Signal will be sent to everyone on the Florida West Coast Section Email List.

If you wish to be added to the FWCS Email List just send an email to fwcs@weiweb.com with "SUBSCRIBE" as the subject. If you wish to be removed from the list, just send an email to fwcs@weiweb.com with "UNSUBSCRIBE" as the subject.

The FWCS Email List will <u>NOT</u> be updated from the Piscataway database. There is one more important point. The address <u>fwcs@weiweb.com</u> is a semi-automatic software mailing list. Do not send any comments or compliments, as they will not be read by a human being.

Wireless and Microwave Technology 2001 An Industry/Government/Education Forum

DATE: Saturday, March 24, 2001

TIME: Registration begins at 8:00 am

Presentations and Panel Sessions from 8:30 am to 4:00 pm

Social Hour from 5:00 pm on

LOCATION: Embassy Suites, Busch Gardens

3705 Spectrum Blvd., Tampa, FL 33612

Phone (813) 977-7066

ABSTRACT - The Wireless and Microwave (WAMI) Program at the University of South Florida invites you to attend this third annual event. The interactive forum will provide an opportunity for the exchange of information on the status and directions of wireless/microwave technology, and the educational and research challenges now being addressed. Activities will include 6-8 technical presentations by invited speakers and two panel sessions. Please check for an updated speaker and topic list at http://ee.eng.usf.edu/WAMI, where you will also find information on the 1999 and 2000 events. Lunch and refreshments will be provided during the day, along with a social hour and tour of USF's laboratories in the late afternoon.

The Wireless and Microwave Group in the Electrical Engineering Department at the University of South Florida is organizing this event. Sponsors include the USF College of Engineering and the IEEE Florida West Coast MTT/AP/ED Chapter.

RESERVATIONS - Please make reservations before March 16, 2001. We welcome late registration but appreciate a timely response in order to accommodate our planning.

REGISTRATION FEES: IEEE Student Member: \$0

IEEE Member: \$20 Non-IEEE Member: \$30

(Students who are not IEEE members may register for \$20 and apply this toward

the IEEE Student Member Application fee.)

RSVP & send payment to: Becky Brenner

USF Dept. of Electrical Engineering 4202 E. Fowler Ave., ENB118

Tampa, FL 33620

Voice: (813) 974-2369 Fax: (813) 974-5250

Email: brenner@eng.usf.edu

Please make checks payable to IEEE-FWCS or pay on-site.

DIRECTIONS

- ◆ Take I-275 to the Fowler Avenue exit, approximately 8 miles north of the I-4 interchange.
- ◆ Take Fowler Avenue east approximately 2 miles to Spectrum Blvd.

 The Embassy Suites is on the north side of Fowler Avenue, immediately in front of the University of South Florida.

MTT/AP/ED February Meeting

"Digital Modulation, RF Test, and Wireless Communications"

WHEN: Tuesday, February 13, 2001 6:00 pm

SPEAKER: Dr. Michael Heutmaker, Lucent Technologies Bell Laboratories, Princeton, NJ

ABSTRACT:

Second and third-generation cellular systems utilize digitally-modulated carrier signals instead of analog frequency modulation. The advent of digitally modulated signals has introduced a new class of test and measurement problems because the accuracy of the modulation is an important parameter. Until recently, RF measurements such as frequency response, group delay, gain compression, and intermodulation (all performed using a sinusoidal stimulus) were sufficient to design and test a circuit or system. How do these sinusoidal tests relate to modulation accuracy measurements such as rho (the waveform quality factor, defined for IS-95 CDMA), EVM (error vector magnitude, defined for IS-54 TDMA and 3GPP W-CDMA), or rms phase error (defined for GSM)? This talk will explain fundamentals of digital modulation, give background on some RF test and measurement issues, and show how samples of the modulation envelope may be processed to analyze the effects of noise, linear distortion and nonlinear distortion.

BIOGRAPHY:

Michael Heutmaker is a Distinguished Member of Technical Staff at Lucent Technologies Bell Laboratories in Princeton NJ. He received the BS degree in Physics in 1980 from Washington University (St. Louis, MO) and the PhD in Physics from the University of Pennsylvania (Phila, PA) in 1986. He joined AT&T Bell Laboratories (which later became Lucent) in 1986, and has worked in wireless design and test since 1990. Since 1994 he has specialized in test and measurement issues for digitally modulated signals in wireless communication circuits and systems. He holds six patents and has published approximately 15 journal and conference papers. Mike is General Chair of the 2001 IEEE Radio and Wireless Conference (RAWCON2001), and has served as General Chair or Technical Program Chair for RAWCON since 1997.

LOCATION: Raytheon Systems Company St. Petersburg, 1501 72nd Street North, St. Petersburg

Gill Robb Conference Room

PLEASE RSVP: Leave name & country of citizenship with Shawn O'Brien at (727) 302-3493.

E-mail: skoa@eci.esys.com Bring a guest; non-members welcome!

DIRECTIONS: From Tampa, take I-75 South to I-275 south across Tampa Bay to Exit 12 (22nd Ave N.). From Sarasota, take I-75 North to I-275 north over the Sunshine Skyway Bridge to Exit 12 (22nd Ave N.). Turn west on 22nd Ave. past Tyrone Mall to 72nd Street N. Turn left at the traffic light to the Engineering building. Park in the lot farthest south of complex. The meeting will be held in the Gill Robb Wilson Conference Room on 2nd floor.

embedded systems Ray Hazen programming Micro Design electronic/electrical design 17067 Dolphin Drive quick-turn pcbs North Redington Beach and prototypes FL 33708 test equipment design technical writing 727-391-0709 let experience serve ray@tracktivate.com your engineering needs

INTEGRATIVE SCIENCES, INC.

John N. Warfield, President

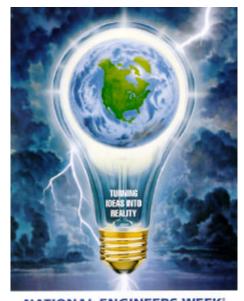
ATransforming Complexity into Understanding@

2673 Westcott Circle Palm Harbor, FL 34684-1746 <u>jnwarfield@aol.com</u>

Phone: 727-773-9510 Fax: 727-771-7567

http://www.integrativesciences.com

CELEBRATE ENGINEERING 2001 BANQUET



Location: Ramac

Date/Time:

Ramada Airport Inn 5303 West Kennedy Blvd., Tampa, FL 33609

6:00PM Social, 7:30PM Dinner, 8:45PM Program

(813) 289-1950

Speakers: Dr. Win Phillips of University of Florida

Saturday, February 17, 2001

Topic: "Future Demands on Engineers"

Mr. Michael Labonge of Walt Disney World Topic: "Imagineering and Innovation"

Entertainment: A local caricaturist – Art Mayner

Magical Entertainer - "Mark the Balloon Guy"

Door Prize: Given through out the evening

Cost: \$20.00 per person

NATIONAL ENGINEERS WEEK* FEBRUARY 18-24, 2001

Each February, National Engineers Week unites engineers and the public in a celebration of innovation and technology, National Engineers Week increases public awareness of engineering's contributions to our quality of life.

The Florida West Coast Engineering Societies are pleased to announce the annual Engineers Week Banquet. This year, the banquet will be held on Saturday, February 17, 2001, at the Ramada Airport Inn in Tampa. This event brings engineers of various disciplines together to share an evening of fellowship, fine dining, entertainment, and recognition of individual achievement. Local engineering societies will bestow student Engineer of the Year Awards in their respective disciplines. Each society's Engineer of the Year Award will be presented. Teacher of the Year from Pinellas, Hillsborough, and Pasco Counties will also be presented. This event will be moderated and entertained by a local magician "Mark the Balloon Guy". Dr. Win Phillips from University of Florida will provide a presentation on "Future Demands on Engineers". Mr. Michael Labonge from Walt Disney World will present "Imagineering and Innovation". Participating Societies are Association for Facility Engineers (AFE), American Society of Mechanical Engineers (ASME), Institute of Electrical and Electronics Engineers (IEEE), and Society of Logistic Engineers (SOLE).

Tickets are \$20.00 per person, and must be purchased in advance. Eight seat tables are available for corporate reservations. Please use the mail-in reservation form below, or call Quang Tang at (813) 739-1222 or email q.tang@ieee.org for more information.

Return this Reservation Form to Quang Tang, P.O. Box 272000, Tampa, FL 33688-2000 CELEBRATE ENGINEERING 2001 Banquet – Saturday, February 17, 2000									
Name			Email						
Address									
City		State	State		Zip Code				
Work Phone () Hom		Home Phone	ome Phone ()						
No. Tickets @ \$20 each		Total Amount Enclosed \$		(Make check payable to IEEE-FWCS)					
Dinner Choice	Veg	etarian		Prime Rib		Grouper Provencale			

Professional Planning Day – February 19th, 2001 What is Engineering?

College of Engineering at the University of South Florida in collaboration with the School District of Hillsborough County Presents Professional Planning Day – What is Engineering?

8:00 a.m. – 8:30 a.m. Registration

8:30 a.m. - 10:00 a.m. What is Engineering?

Engineering, Math, Science, & Technology

Educational Requirements Professional Certification

Profile of a Successful Engineering Student

The Need for Engineers

10:00 a.m. - 11:00 a.m. College of Engineering Lab Tours

11:00a.m. - 12:00 noon Teaching Engineering

12:00 noon - 1:30 p.m. Building Working Models with Household Items

1:30 p.m. Wrap Up

Certification Completion & Evaluation

Located in the USF Center for Urban Transportation, CUTR 102

Electrical Engineer

Power Production Division

Associated Electric Cooperative, Inc. (AECI) headquartered in Springfield, Mo. is seeking top-notch technical talent at a time when the electric utility industry has never been more exciting.

Associated Electric Cooperative Inc. is owned by and provides wholesale power to six regional and 51 local electric cooperative systems in Missouri, northeast Oklahoma and southeast Iowa which serve over 750,000 homes and businesses, representing 1.95 million individual consumers. AECI's mission is to provide an economical and reliable power supply and support services to its members with the vision of being the nation's lowest-cost wholesale power supplier.

We are currently seeking an exceptional individual to fill an Electrical Engineer position in the Power Production Division. This position will be responsible for project management engineering work involving major generating resource additions and plant performance improvement.

Qualified candidates must have a Bachelor of Science degree in electrical engineering or equivalent experience. Five or more years of utility experience is preferred. Travel to AECI's plant sites located in Missouri and Oklahoma to coordinate projects and interface with plant staff will be required. Good verbal and written communication skills are essential.

Associated Electric offers excellent traditional benefits and others targeted more specifically to our employees – lockers and a fitness room, walking track on site, fitness club memberships and more. Our salaries are market-based and competitive in the region. To learn more about Associated Electric visit our web site at www.aeci.org.

For confidential consideration, forward your resume to:

Kristina Galbraith

Associated Electric Cooperative, Inc.

Telephone: (417) 881-1204

2814 South Golden, P.O. Box 754

Fax: (417) 885-9252

Springfield, Missouri 65801 E-mail: kgalbraith@aeci.org

An Equal Opportunity Employer M/F/D/V

Brain Teaser Challenge Column

by Butch Shadwell

January BTC Solution

Last month's BTC had a very thinly veiled comment about the recent general election. The object was to measure the depth of non-uniformities on the surface of punch card ballots. The method referred to was optical interferometry. This is the process of counting fringes, or the times when the reflected light beam is 180 degrees out of phase with the reference beam. Each passing fringe corresponds to the reflected beams travel distance changing by one half the wavelength of the light being used. Of course if one uses a single beam reflected normal to the surface, one doesn't know if the non-uniformity is a dimple or a pimple. Think about it. See if you can figure out a way to make this work.

I only had two correct respondents to this one. I guess optical physics isn't as popular as I thought.

February BTC

By the time you read this you will be well on your way to recovery from what I'm sure was a memorable New Years celebration. It is somewhat ironic that during these celebrations, some of the most remarkable events are the hardest to remember due to the state of inebriation at the time. Unfortunately, because I have to get to work, I am re-printing a BTC from March of 1996. Enjoy.

The other day I had a dream about Beevis and Butthead. (Of course you know that in the dream state one can not be certain of correctly spelling characters names.) Anyway, Beevis was arguing with Butthead about whether or not he could burn down the school by short circuiting the power supply on Mrs. Freenbean's electric toothbrush. Her strict attention to oral hygiene was a constant source of bewilderment to the two young delinquents and therefore also deserved their disdain.

If the two had examined the small black cube that plugged into the wall, more carefully, they might have noticed the Underwriters Laboratory and CSA logos imprinted there upon. These agencies had already attempted this conflagration experiment and marked this module to indicate their failure. If anyone of you can explain to Beevis why these small power supply's have intrinsic fire protection you will have earned the Butthead award this month.

Questions or comments to the Brain Teaser Challenge, please contact Butch Shadwell at 904-223-4465 (v), 904-223-4510 (fax), b.shadwell@ieee.org (email), 3308 Queen Palm Dr., Jacksonville, FL 32250-2328. http://www.se.mediaone.net/~butchs/



SARGENT & LUNDY ENGINEERS LEADERS IN ENGINEERING SINCE 1891

- Power Engineering & Design
- Transmission / Distribution
- Environmental Consulting
- Information Technology Services
- Construction Management

9500 Koger Blvd., Suite 200 St. Petersburg, FL 33702 Gene Zakis (727) 578-2500 February 2001 Calendar of Events

Tebruary 2001 Calcindar of Events								
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday		
				1	2	3		
4	5	6 EXCOM Meeting TECO Data Center 6:00 PM Guests Welcome!	7	8	9 Material Due For Next Month's SIGNAL	10		
11	12	13 MTT/AP/ED Meeting at Raytheon 6:00 PM	14	15	16	17 Celebrate Engineering 2001 Banquet at Ramada Inn 6:00 PM		
18 National Engineers Week Feb. 18-24, 2001	19 Teacher In-Service Program at USF 8:00 AM	20	21	22 Joint Section and PES/IAS Meeting at TECO Hall 12:00 Noon	23	24		
25	26	27 Hillsborough Regional Science & Engineering Fair at USF 12:00 Noon	28					

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

3