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THE SUNCOAST SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

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

Volume 43 - No. 2

February 2000

February Joint Section & PES/IAS Meeting Engineer's Week Luncheon

Don't Miss This Special Event

Florida's Electric System Reliability Will the Power Be There When It's Needed?



**NATIONAL
ENGINEERS
WEEK 2000**
FEBRUARY 20-26

- DATE/TIME:** Thursday, February 24, 2000, 12 Noon (Lunch will be provided)
- LOCATION:** Tampa Electric Company - TECO Hall
702 N. Franklin St. (Downtown Tampa)
- RESERVATIONS:** REQUIRED. Contact Paul Leal at 813-635-1411 (*Bring a guest; non-members welcome!*)
- SPEAKER:** Ms. Linda Brousseau, Director of Reliability - Florida Reliability Coordinating Council
- LUNCH COST:** \$12 Members, \$6 IEEE Students, \$20 Non-Members

During this Engineers Week, we thought we would provide our members, their guests, and the public in general with an update on where we are in Florida with regards to Electricity Supply and Delivery. As you are aware, the way we receive and the way electricity is delivered is changing. Each day you hear more about these changes and we thought you'd like to know more about them.

Linda will be able to share with us the current status of the challenges Florida will be dealing with in regards to our power supply and delivery.

Did you ever wonder what the acronyms, ISO, RTO, ISA, etc. meant and how they will directly impact you and your company? Or what "Reserve Margins" are and their impact on you? How about the overall Reliability of the entire Transmission and Generation facilities in the state, will the power be there when you want/need it? All these and many more questions will be answered during Linda's presentation.

Additionally, if you have specific questions you would like answered, please feel free to bring them with you, or better yet, email or phone your questions to the Vice-Chair of the PE/IA Chapter, Paul Leal at st053@tecoenergy.com or 813-635-1411. In that way Linda can be better prepared to answer the specifics of your questions and/or concerns. We look forward to seeing you at the outstanding meeting!

Inside this issue of the Suncoast Signal:

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Chair's Comment

by Al Rosenheck

It's time to sound our engineers horn again. National Engineers Week 2000 will take place on February 20-26 when we honor colleagues for their achievements and help increase public understanding of our engineering profession. The National Society of Professional Engineers established Engineers Week in 1951. It was timed to coincide with George Washington's birthday, since the nation's first president had an engineering background as a surveyor, and established the first call for an engineering school, which led to the founding of West Point.

The Tampa Bay Engineers Week Committee, comprised of representatives from seventeen professional societies, have organized the annual Engineers Week banquet for Friday, February 18, 2000, at the Belleview Biltmore Hotel in Clearwater. Here local engineering societies will bestow student Engineer of the year awards. The 1999 Engineer of the year award will also be presented. In addition we will have a fun evening of good dining, dancing and entertainment.

Banquet tickets are still available at \$40 per person. For more information, call Quang Tang at (813) 963-0994. I hope to see you there.

Lignell Awards Announced

by John Twitchell

Each year the FWCS recognizes outstanding math and science teachers from area high schools through presentation of the Lignell Award, which is named in honor of Kim Lignell, a past Section Chair. This year's award for Pasco County goes to Kim Adams, of Pasco High School. Rose Mack of the Center for Advanced Technologies at Lakewood High School is our Pinellas award winner, and Lisa Culberson of Leto High School represents Hillsborough County. Congratulations to these teachers for the work they do preparing our young students for college!

Did you know... ?

Engineers Week's Just For Fun trivia question:

QUESTION:

What was the first commercial building to be air-conditioned, and when?

ANSWER:

The New York Stock Exchange building, in 1901.

Engineers Survey Predicts Workplace of the Future?

The workplace of the future will be smaller, safer, and contain less people, according to a recent survey conducted by the National Engineers Week Committee, but most of all it will likely be marked by increased use of robotics, lots of monitors, and, of course, cameras.

PE/IA Senior Membership Goals for Year 2000

The FWCS PE/IA Chapter has established a Senior Membership Goal for 2000. The Officers for the Chapter have set a goal of TWELVE (12) new PES/IAS Members for this year. As part of that Goal the Chapter is offering to cover the costs of your lunch or dinner IF you bring a completed Senior Member Application with you to the meetings. Be sure and take advantage of the outstanding offer and help the Chapter meet its 2000 Goals.

Additional PE/IA Chapter Meetings in February

Tour of the Moffit Cancer Research Center Digital Medical Imaging Program

When: Wednesday, February 9, 2000 6 PM

Where: Moffit Cancer Research Center
12901 Bruce B Downs Blvd., Tampa

Menu: Catered by Moffit Cancer Center Food Svcs.

Price: Members and Guest \$14.00 per person
ASME & IEEE Students \$7.00 per person

Reservations and cancellations are required by noon on Monday February 7, 2000. To make reservations call Helen Prince at (727)734-5546. (by e-mail clarencep@webtv.net)

Flow Meters - Selection Process & Technology Joint Meeting with ISA

Date/Time: Monday, February 21, 2000, 7:00 PM

Speaker: Mr. Carl Annarummo
Flo Technology Specialist
Rosemount Inc, Charlotte, NC

Location: Sheraton Inn Four Points Hotel
7401 E. Hillsborough Ave., Tampa
(813) 626-0999
(Off I4 exit at Orient Road)

Reservations: Contact Charles Drane
Program Chair for ISA 813-627-0603

IEEE SP/COMM Chapter Meeting Telecommunication Technology Advancements & Network Direction

Date/Time: Tuesday, 15 February 2000 at 6:30 PM

Location: Digital Lightwave, Inc.
15550 Lightwave Drive, Clearwater, FL, 33760.

Topic: Telecommunication Technology Advancements and Network Direction

Speaker: Douglas J. Gardner, Digital Lightwave, Inc.

Abstract:

This presentation will cover the new technology in the fiber optic telecommunication's area and the projected direction of the network. Topics will include technical detail of newest technology, DWDM systems, optical system impairments, all optical architectures, MEMS (Micro Electro Mechanical Systems) Devices, SONET/ATM/IP directions.

Biography:

Douglas J. Gardner is currently the Director of Engineering at Digital Lightwave, Inc. Mr. Gardner received his MSEE degree from the Fairleigh Dickinson University and his BSEE from the University of Maryland. He is responsible for research and development of high-speed optical technology. Mr. Gardner has been designing fiber optic lightwave systems with Digital Lightwave for five years. Prior to that, he worked for AT&T Bell Labs designing fiber optic lightwave systems for ten years. Mr. Gardner is a member of the IEEE Communications Society.

Food:

Drinks and refreshments will be provided by Digital Lightwave, Inc.

Reservations:

Please notify Doug Gardner by email only. Please state that you are attending the IEEE meeting and include your name, company and telephone number. Email dgardner@lightwave.com.

Directions:

From Tampa, take I-275 south to I-275 south across Tampa Bay and follow the signs to the St. Petersburg-Clearwater Airport (on Roosevelt Blvd., Route 686). Pass the airport and go under the McMullen Booth (Route 611) bridge. Digital Lightwave is your 1st right. Basically, Digital Lightwave is across McMullen Booth road from the airport.

From Sarasota, take I-75 north to I-275 north and follow the signs to the St. Petersburg-Clearwater Airport and follow the above directions.

If you need directions call the guards desk at 727-442-6677 x2895. When you check in at the guard's desk, ask for the IEEE meeting in the training room. Note: this is a new building and is not correctly listed in many map programs.

IEEE MTT/AP/ED & USF College of Engineering Present Wireless and Microwave Technology 2000 An Industry/Government/Education Forum

DATE: Saturday, March 11, 2000

TIME: Registration begins at 8:00 am, Presentations and Panel Sessions from 8:30 AM to 4:00 PM, Social Hour and Dinner from 5:00 PM on.

LOCATION: Embassy Suites, Busch Gardens, 3705 Spectrum Blvd., Tampa, FL 33612
Phone: (813) 977-7066

ABSTRACT:

The goal of this interactive forum is to create a stimulating environment for the exchange of information about the status and directions of wireless technology, the educational and research challenges this changing technology presents, and actions being taken by educators to address these challenges.

Although the speaker list has yet to be finalized, we expect to have presentations on topics such as wireless channel modeling, micro electromechanical systems (MEMS), wireless antennas and hardware, and fabrication technology. These presentations, and 2-3 panel sessions, will address government and supplier perspectives, emerging wireless activity, and curriculum advancements that will better prepare students for the wireless field.

A tour of University of South Florida's laboratories is scheduled for the late afternoon. This forum is intended to be an informal setting that will facilitate professional networking. Lunch and refreshments will be provided, along with a social hour and dinner at Embassy Suites.

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

RESERVATIONS:

Please make reservations before March 3, 2000. We welcome late registration, but appreciate a timely response in order to accommodate our planning.

REGISTRATION FEES:

IEEE Student Member: \$15.00, IEEE Member: \$30.00, Non-IEEE Member: \$50.00. Please make check payable to IEEE-FWCS. RSVP and send payment to Becky Brenner, USF Department of Electrical Engineering, 4202 E. Fowler Ave. ENB118, Tampa, FL 33620. Voice: (813) 974-2369. Fax: (813) 974-5250. Email: brenner@eng.usf.edu. or use form below.

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.

<p>IEEE MTT/AP/ED & USF College of Engineering Wireless and Microwave Technology 2000 An Industry/Government/Education Forum Saturday, March 11, 2000</p> <p>Please make check payable to IEEE-FWCS and return this reservation form to Becky Brenner USF Department of Electrical Engineering, 4202 E. Fowler Ave. ENB118, Tampa, FL 33620</p>			
Name			
Address			
City		State	Zip Code
Work Phone		Home Phone	
# of \$15 Tickets	# of \$30 Tickets	# of \$50 Tickets	Total Enclosed \$



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

CODE OF ETHICS

We, the members of the IEEE,

in recognition of the importance of our technologies in affecting the quality of life throughout the world, and in accepting a personal obligation to our profession, its members and the communities we serve, do hereby commit ourselves to conduct of the highest ethical and professional manner and agree:

- 1 to accept responsibility in making engineering decisions consistent with the safety, health, and welfare of the public, and to disclose promptly factors that might endanger the public or the environment;*
- 2 to avoid real or perceived conflicts of interest whenever possible, and to disclose them to affected parties when they do exist;*
- 3 to be honest and realistic in stating claims or estimates based on available data;*
- 4 to reject bribery in all of its forms;*
- 5 to improve understanding of technology; its appropriate application, and potential consequences;*
- 6 to maintain and improve our technical competence and to undertake technological tasks for others only if qualified by training or experience, or after full disclosure of pertinent limitations;*
- 7 to seek, accept, and offer honest criticism of technical work, to acknowledge and correct errors, and to credit properly the contributions of others;*
- 8 to treat fairly all persons regardless of such factors as race, religion, gender, disability, age, or national origin;*
- 9 to avoid injuring others, their property, reputation, or employment by false or malicious action;*
- 10 to assist colleagues and co-workers in their professional development and to support them in following this code of ethics.*

Presidential Message for National Engineers Week 2000



**THE WHITE HOUSE
WASHINGTON**

Warm greetings to all those observing February 20-26, 2000, as National Engineers Week.

As we begin a new century, it is an ideal time to recognize and give thanks for the many contributions America's engineers have made to the life of our nation. From putting men on the moon to developing our interstate highway system, from cleaning our air and water to prolonging our health, engineers have been involved in many of our century's most extraordinary and enduring accomplishments. With a passion for discovery, engineers have worked tirelessly to make our lives safer, easier, and more fulfilling.

For half a century, National Engineers Week has helped to promote awareness of the engineering profession and to encourage young people to consider a career in engineering. I am confident that, with interesting hands-on activities and exciting competitions sponsored at schools and community centers around the nation, this year's observance will help to influence a new generation of young Americans to pursue their study of science and math – the foundation of a career in engineering.

I commend the organizers, volunteers, and supporters of National Engineers Week for your dedicated efforts to advance the field of engineering, and I am especially pleased that you have decided to focus on the environment and sustainable development during this year's observance. You can take pride in the knowledge that your hard work is helping to ensure the prosperity of our nation and to build a brighter, healthier future for our children.

Best wishes for a successful week

Bill Clinton



IEEE

Networking the World™

Improving the Image of Engineers

George F. McClure, PACE Coordinator, Region 3

For a long time, engineers have expressed concern about the view the public holds of them. Granted, surveys of the public's estimate of trustworthiness places engineers high up on the list, well ahead of politicians, lawyers, used car dealers, and TV evangelists. But the public at large has little knowledge of what engineers do, and students often think of them as geeks, not to be emulated. The mass media gave us Marcus Welby, MD, LA Law, and ER, but no dramatizations of engineers at work.

The American Association of Engineering Societies, of which IEEE-USA is a member, has been working for more than a year on improving the image of engineers and engineering. A new Council on Public Awareness of Engineering is being established to work with the AAES Engineering Alliance and the media to communicate the value of engineering to the public, showing how engineering contributes to improving their quality of life, and to honor the contributions of engineers.

Experienced engineers can contribute to this public understanding in several ways, including outreach to service clubs in the community, working with secondary schools to aid teachers with math and science or computer projects, and in providing advice to others in the community, along the lines of the work done by the Service Corps of Retired Executives (SCORE) in working with small businesses. SCORE has 11,500 volunteers in 389 chapters across the U.S., including three chapters in the Tampa Bay area. To learn more about SCORE, visit the web site at www.score.org.

Retired engineers constitute a resource that can be tapped to aid in this endeavor, as well as for other beneficial purposes. To aid in implementing this concept, Region 3 is designing a Platinum Member Database.

The Florida West Coast Section, as the Florida section with the largest number of retired engineers, is an ideal testbed for pioneering the Platinum Member Database. The primary focus is members who are age 50 or more, who are retired or downsized or just interested in giving something back to their communities and profession. Features of the database will include information about the members' backgrounds, experience and interests, location and member grade. The database could serve several purposes, including:

- a. identifying members interested in part-time work (either volunteer or for pay)
- b. helping link members having special skills with entities needing those skills (e.g. advising others as members of SCORE do, for example, as retired executives advising start-up businesses)
- c. helping junior members with access to more experienced mentors who are not in their reporting channel at work and therefore avoid potential interest conflicts
- d. helping student members as mentors, sounding boards, advisors on student projects, etc.
- e. identifying members interested in working with math and science teachers in K-12, by tutoring students, providing computer expertise, developing descriptions of what engineers and scientists do at work to present in half-hour segments, with Q&A (tailored to the academic level of the students), or teaching the math and science teachers in weekend sessions to help them teach more effectively in cases where the teachers are not certified in those topics
- f. providing contact information enabling members to network with other members having similar interests.
- g. serving as a screening device to identify members who are qualified for upgrading to senior member but who have not done so.

Outreach at the section/area/council/region level can be accomplished through including a Speakers' Bureau in the Platinum Member database consisting of those experienced members willing to talk to civic, fraternal, social, or school groups about some facet of engineering holding public interest, explaining the potential implications of technical developments on quality of life, or a similar topic.

Suggestions? Want to volunteer?

Would you like to be included in the Platinum Member initiative for the Florida West Coast Section? Would you like to help develop the database? Interested in suggesting or volunteering for other professional activities?

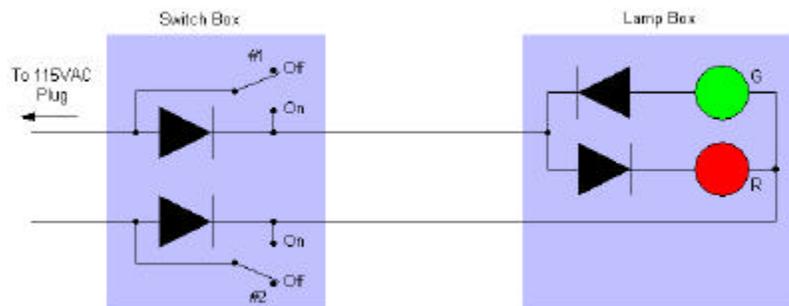
Do you have beneficial suggestions not touched on above? We want to know about them! Please contact George McClure by e-mail at g.mcclure@ieee.org, by phone at 407-647-5092 or by fax at 407-644-4076.

Brain Teaser Challenge Column

by Butch Shadwell

January BTC Solution

Last month's column, as submitted by James R. Kannard, generated an extraordinary number of responses. Even more remarkable was the number of designs I received that would have exploded if someone turned on both lamps at the same time (one would have exploded as soon as you plugged it in). Some involved mechanical interlocks and relays that were not included in the parts list. Congratulations to those of you who got it right. I want to thank James for his valuable contribution to this column and I invite you all to send me your contributions. James' solution is shown below.



February BTC

I hope that 1999 was a good year for all of you. I'm sure everyone has had to endure some hardship in the last twelve months, but if you're reading this, you made it. The year 2000 does have an ominous sound to it. I suppose the sound of it makes one feel there must be something special with regard to this year. As I am writing this, I don't know yet if there were any evil deeds done at the dawn of the new year, but I am fairly confident that the sun will have risen on the morning of January 2, 2000.

The last 2000 years have brought many technological advances, but fortunately we have an excellent record of some of early man's technical achievements through the cinematic archives of Fred Flintstone. This is an amazing treasure of the typical lives of two troglodytes, Fred and Wilma, and their family and friends in the village of Bedrock. I am certain most of what we know of prehistoric man must come from these records. You may recall that these early people had a method of playing phonograph record discs with the use of a bird perched next to the turntable. This bird (species unknown) seemed to have a very sharp beak that it would rest in the groove of the record and apparently its skull would act as the sound emitter. Quite ingenious! I can imagine training this bird to endure this torture (depending on its taste in music) was not easy. Earlier this century, before we had optical CDs and even before magnetic cartridges for our phonographs, there was a technique to convert the vibration of a stylus (a metal needle in the record groove) into electrical energy. I would like to ask my readers if they can name this transducer technology, and for extra credit tell me something about how it worked.

Reply with the IEEE Florida West Coast Section Suncoast Signal reference to Butch Shadwell by the 20th at (904) 223-4465 (voice), (904) 223-4510 (fax), b.shadwell@ieee.org, 3308 Queen Palm Dr., Jacksonville, FL 32250-2328. (<http://www.ccse.net/~butchs/>). Only the names of correct respondents are mentioned in the solution column on the next Signal.

Joint ASME & IEEE-FWCS Section Meeting

Come and Learn All About the FIRST Robotics Competition

- Date/Time:** Tuesday, February 29, 2000 - Dinner at 6:30pm, Speaker at 7:30pm.
- Location:** Dutch treat dinner at the Spaghetti Warehouse at Ybor Square. Dinner attendance optional) and the meeting at TECO Data Center (one block from Ybor Square)
- Speaker:** Bob Marchant, Raytheon Systems Corporation
- Reservations:** Please e-mail John Conrad at john.conrad@ieee.org.
Call 813-926-4004 if you have any questions.

FIRST is the acronym (For Inspiration and Recognition of Science and Technology) for a non-profit national organization dedicated to motivating primary and secondary school students to experience the excitement of engineering design and development.

Bob Marchant has given his time to the FIRST program for many years. He will enthusiastically share his experiences with the Robotics Competition with you and he will bring along a high school student who has benefited from the program and maybe a robot or two!

Bring your spouse and have a fun night out!

To find out more about FIRST - Come to this meeting or visit our web site at www.usfirst.org, or visit the Raytheon FIRST team web site at www.deepthunder.com, or call any of the following people at Raytheon:

Al Nauda 727-302-4708

Bob Marchant 727-302-7133

Glen Kaufman 727-302-4391

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Small Clearwater electronics manufacturer seeks Electrical Engineers (EE) to help modify existing products and work on new product development.

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Please Call Clayton Burton at (727) 556-2682

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Pelican Engineering needs an electrical engineer to design building power systems. AutoCAD experience is necessary and professional registration is desirable. Salary will be dependent upon qualifications and experience.

Pelican Engineering Consultants, Inc.
5811 Pelican Bay Blvd., Suite 301, Naples, FL 34108
Phone (941) 597-7544 Fax (941) 597-6363
e-mail pelicanengr@prodigy.net

February 2000 Calendar of Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 <i>EXCOM Meeting TECO Data Center 6:00 PM</i>	2	3	4 <i>Material Due for SIGNAL'S March Issue</i>	5
6	7	8	9 <i>PE/IA Mtg Tour Of Moffit Cancer Center 6:00 PM Joint w/ ASME</i>	10	11	12
13	14	15 <i>SP/COMM Chapter Meeting at Digital Lightwv 6:30 PM</i>	16	17	18 <i>Engineers Week Banquet 6:30 PM Belliview Biltmore, Clrwtr</i>	19
20 <i>National Engineers Week Celebrations Feb. 20-26, 2000</i>	21 <i>PE/IA Mtg Flow Meters @ Flo Tech. Sp. 7:00 PM Joint w/ ISA</i>	22	23	24 <i>Joint Section & PES/IAS Meeting @ TECO Hall 12:00 PM</i>	25	26
27	28	29 <i>Joint Section & ASME Mtg @ TECO Data Center 7:30 PM</i>				

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