

THE SUNCOAST SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

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

Volume 44 - No. 5

May 2001

Joint PES/IAS Chapter & ASME Meeting Special Tour of Publix New Ammonia Refrigeration System & Dairy Plant Wednesday May 9th, 6:30 PM dinner, followed by meeting and tour (Early arrivals will be welcomed at 6 PM)

Publix has invited us to tour their new, recently constructed, frozen food warehouse with an ammonia refrigeration system. The wondrous science of refrigeration – based upon the fact that a liquid can be vaporized at any desired temperature by changing the pressure above it. Since the restriction on chlorofluorocarbons (CFCs), ammonia is becoming an important refrigerant to use. With the phasing out of CFCs, come see this newly constructed and installed refrigeration system in our local area!

Along with seeing and learning about the new refrigeration system walk among the machines and processes of the Dairy Plant. See and learn about the operation and processes of making ice cream, yogurt, cottage cheese, and bottled water.

Spend a few hours among your colleagues. Bring a co-worker, friend, or daughter/son to see – “how it works”.



- Where:** Publix Headquarters Operation Facilities Lakeland
- Dinner:** Deli sandwiches, dessert, and drinks will be provided by Publix.
- Cost:** \$8.00 per person
(\$5.00 for student attendees)



Reservations: Reservations and cancellations are required by Noon May 7th. To make reservations, call Helen Prince at 727-734-5546. Paying in advance by check would be appreciated. Make your check payable to ASME-FWCS and mail to Helen Prince, 1515 Ruth Road, Dunedin, FL 34698. All ASME dinner meetings are open to the general public

A special ‘Thank You’ to Publix for sponsoring our May 9th meeting in support of our student activities!

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Chair's Comment

By Quang Tang

Several of our Section Executive Committee Members attended Southeastcon 2001 last month at Clemson University in South Carolina. Southeastcon brings together professionals, university faculty and students. These groups share information through technical sessions, meetings, industry exhibits and contests.

I was very proud of our students for entering both hardware and T-shirt design contests. Great job!

Were you working at the Cape from 1950 -1969?

Do you know people who were? May be your parents, or neighbors? If so, we need to talk to you and we need your help!

The Canveral Section will host an IEEE Milestone (only the 37th Milestone in the world!) on May 25, 2001, at the Kennedy Space Center to "Honor Electronic Technology Advances in Space Rocket Launches", and we are looking for these individuals, who changed the world forever, so that they can be honored guests at the ceremony.

In addition to locating and inviting these pioneers, we still need some help in other areas –

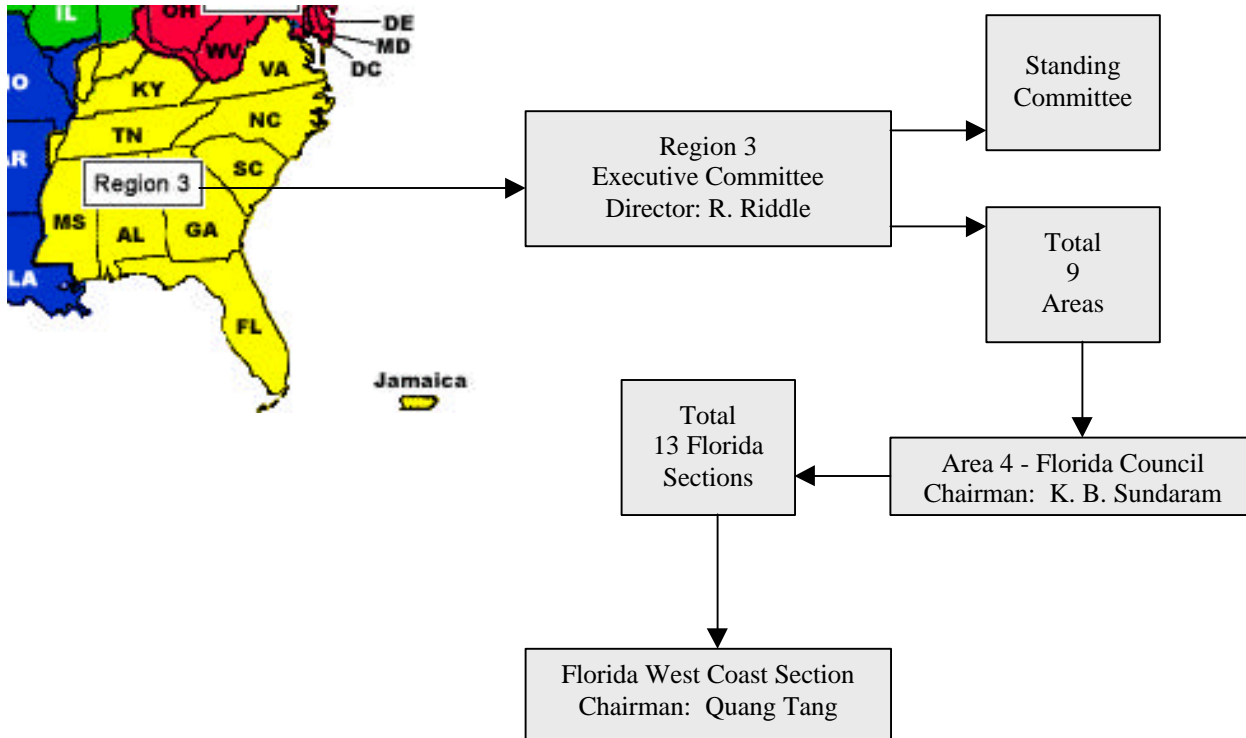
- Inviting other VIPs, (the Governor, his big brother, his father....)
- Reception arrangements
- Photographers
- Publicity
- IEEE Ambassadors during the Event
- Shuttling visitors to the Conference center
- Lots of small areas, e.g. stamping envelopes, dropping off
- Spectators!

The is the first time the massive electrical engineering effort required to put men in space has been recognized with an IEEE Milestone.

One VIP has already committed to attend the ceremony. IEEE President Joel Snyder, an avid follower of Space history (and attendee of multiple Shuttle launches) told us "this significant milestone in the history of IEEE recognizes the significant contributions of the electrotechnology profession in the area of space flight".

Please help us recognize these pioneers by sharing your time, talent and contacts (even an hour of your time would make a difference!) to make this event a reality.

Time is running short – please contact Kathy Rinehart today at 321-773-2562 or krinehart@ieee.org to lend a hand or give her contact information!



IEEE Florida West Coast Section – Who Are We?

The Florida West Coast Section has more than 2,300 local members focused on the West Coast of Florida. We are a member of the IEEE Florida Council, which represents the thirteen Florida Sections and its approximately 10,000 members.

The IEEE worldwide membership is divided into ten regions. Florida is contained in region 3 which includes most of the states in the Southeast United States and Jamaica. Both the Florida Council and the Florida West Coast Section are part of IEEE Region 3. There are more than 32,000 members in Region 3.

Our Section is active with currently nine Society Chapters in operation. Many of these Chapters are operating as joint Chapters and hold scheduled meetings throughout the year. We also collaborate with other technical societies to share meetings and speakers. Typically meetings can be tours of local facilities, such as Tampa International Airport, nationally recognized speakers, or just local members sharing their knowledge and skills. The goals are to provide information to our membership and to keep them up-to-date on the changes occurring in their profession.

We also hold the local Section Executive Committee meeting monthly throughout the year, normally on the first Tuesday of each month at the Tampa Electric Company Data Center. Active Society Chapters operating in our Section include:

- Aerospace and Electronic Systems/Computer joint meetings
- Power Engineering/Industry Applications joint meetings
- Microwave Theory and Techniques/Electronic Devices/AP joint meetings
- Signal Processing/Communications joint meetings

In addition we also hold Seminars, conferences and Section meetings of various types throughout the year on both technical and professional subjects. The window into all of these activities can be found in our monthly newsletter, “The Suncoast Signal”. It keeps our members informed of all that is happening locally and from around the State, Region, and Nation. The newsletter is distributed via e-mail, published on our web site and by mailed hard copy.



IEEE Power Engineering Society Substation Committee Annual Meeting 2001



IEEE
Networking the World™

Wyndham Harbour Island Hotel Tampa, Florida May 6 – May 9, 2001

The Florida West Coast Section is hosting this major four-day meeting. Take advantage of this unique opportunity to get involved. Either volunteer to help the host committee or register to attend the technical sessions. This meeting, open to all, provides attendees with the unique opportunity to expand their knowledge and expertise by participating in activities of the PES Substation Committee and numerous Working Groups and Task Forces.

Substation Committee Web Site: <http://home.att.net/~gengmann/>

Location:

The 300 room, four-star Wyndham Harbour Island Hotel (phone: 813 229-5000) is on the north shore of Harbour Island, a 177 acre urban development across Garrison Channel from downtown Tampa. The hotel has a, spectacular, waterfront view. Downtown Tampa, Bayshore Boulevard and the Garrison Channel entertainment and shopping area including the Florida Aquarium is a comfortable stroll or short trolley ride away.

Contact Information:

For more information, or any correspondence regarding meeting administration, contact:

Ken Cooley - Meeting Host Chair
Tampa Electric Company
Phone: 813 630-6346
Fax: 813 630-6297
Email: klcooley@tecoenergy.com

Dates:

Registration and Welcome Reception on Sunday May 6, 2001. Meetings will be held May 7, 8 & 9.

Schedule:

Sunday, May 6 - Registration (all days), Welcome Reception.

Monday, May 7 - Continental Breakfast, Committee Meetings, Luncheon, Technical Tour, and Companion Activities.

Tuesday, May 8 - Continental Breakfast, Committee Meetings, Companion Activities, Dinner Banquet.

Wednesday, May 9 - Continental Breakfast, Committee Meetings, Companion Activities.

Registration:

Advance Registration (before April 1, 2001) for IEEE members is \$200 (\$80 per day) and non-members is \$250. On-site registration for IEEE members is \$225 (\$90 per day) and a non-member is \$300. See Host Committee Web site for registration details.

Non-technical Activities

Besides the informal (business casual) Welcome Reception Sunday evening, May 6, a catered banquet is planned for Tuesday, May 8 at an interesting Tampa attraction. Also, for Sunday afternoon, a Golf outing is in the planning stages.

The host committee is also developing a number of entertaining companion activities that will take advantage of this unique location.

Find out more about this important Annual Meeting from the web site:
<http://www.tampaelectric.com/energy/ENIEEEconf.html>

Teacher In-Service Program Volunteers

The Florida West Coast Section has taken the lead in piloting a teacher in-service program impacting the level of technological literacy of 40 educators and thousands of their students in the Tampa Bay area. The teachers who have participated in the two FWCS sponsored in-service presentations have overwhelmingly responded that they will use the concepts presented in their classroom instruction and have indicated that their level of technological literacy has been increased.

Our goal is to develop and present at least two additional technologically oriented topics to pre-college educators. We need your help to make this a reality. If you are willing to participate in this worthwhile endeavor that will impact teachers and their students for years to come please contact Doug Gorham at 941-753-4758 or d.g.gorham@ieee.org.

New Officers Elected for FWCS Student Branch at USF

Welcome aboard to the newly elected officers for the IEEE USF Student Branch. These officers will be leading the Branch over the next several months and their Chair, Anthony Webster, will be the new voting member of the FWCS Executive Committee. Special thanks to Daniel Faria for his leadership as Student Branch President over the last year.

The new Officers are:

President	Anthony Webster (apwebste@eng.usf.edu)
Vice-President	Clemente Toro (toro@eng.usf.edu)
Treasurer	Amy Yen (yen@eng.usf.edu)
Secretary	Ruben Gomez (rgomez@eng.usf.edu)
Program Director	John Daniel (jedaniel@eng.usf.edu)
EXPO Chair	Pam Collins (collins@eng.usf.edu)
Historian	Lindsay Lattimore (ktrina48@yahoo.com)
X-tream Team Leader	Stephen Curry (spcurry@eng.usf.edu)

National Science Foundation Award to St. Petersburg JC

By Joe Skala

In February 2001, the National Science Foundation Awarded St. Petersburg Junior College (SPJC) nearly \$150,000.00 for annual scholarships of up to \$2500.00 per eligible students. To be considered for a scholarship, students must show a financial need and be enrolled as full time students, at the associate and/or baccalaureate level, in Computer Science, Computer Technology, Engineering, Engineering Technology, and/or Mathematics. In the first year of the Grant, thirty-nine (39) scholarships have been awarded to SPJC students. The SPJC NSF Grants office wishes to thank Mark McKeage, IEEE Pace Committee for their support of the Program.

Can you assist SPJC?

This summer an innovative program is being offered to 12 students who have just completed the eight grade in order to encourage their taking four years of mathematics in high school. Institution and Computer work will take place Monday and Wednesday, while field trips are scheduled for Tuesday and Thursday between June 11, 2001 and July 10, 2001.

Can you host a field trip and a simple lunch in your business or professional setting? The purpose of the visit would be to demonstrate how Mathematics is being applied in careers. Please contact Dr. Sunny Norfleet at (727) 791-2561 or Joe Skala, P.E., at (727) 791-2558 for more details.

FWCS to meet in Fort Myers

By Al Rosenheck

Mark your calendar! We are planning a joint Section and Life Member Chapter luncheon meeting in Fort Myers on Tuesday, June 12, 2001. Details of the meeting will soon be available. For more information send your e-mail address to me at rosenheck@aol.com or telephone me at (941) 395-2117.

Congratulations to our New IEEE Senior Members

William (Bill) Sams
Steve Malich

These two members were nominated by their peers as qualified to be Senior Members of the IEEE. Only 8% of the IEEE membership holds the honor of being deemed Senior Members.

CALL FOR PAPERS

MTAC 2001 - Multimedia Technology and Applications Conference Multidisciplinary Digital-Media Conference November 7 - 9, University of California at Irvine

Call For Papers to both Scientists and Artists

500-word Abstract of proposed conference presentation - by April 30th, 2001

Full Paper by August 1st, 2001. Details <http://www.mtac.uci.edu> See "Titles" page for examples of last year's papers.

This year we are moving the conference sharply towards Artists - so as to establish an exciting Art - Science mix.

Artists are particularly invited to present innovative demonstrations using or concerning Digital Media.

Principle Contact

Dr. John Tabor

tabor@uci.edu 949 824 2818

Is This Your Last Signal?

Each year at the end of February, IEEE updates their membership lists and places members who have not paid their dues into an arrears category. This updated list, with the arrears members marked is provided to the Section for creating mailing labels. We have recently received our update membership list and beginning next month (June issue) we will be using the new list.

If you have not renewed your dues for 2001, please do so right away, so you won't miss even one edition of the Signal.

Please note if you have an IEEE alias for your email, you will also be notified that it is being withdrawn if your dues are not up-to-date.



ATTENTION Retired Engineers!

Tired of golf, golf and more golf?
Can't read another magazine?
Want to reenergize your mind!

ETCO, Inc. Research & Development
will be hosting an informal monthly Engineers'
Discussion over coffee & danish at our facility.

Come share experience at our newly established lab.
This is no gimmick or come on.
Just an old fashion "pickle barrel" chat.
Every 2nd Wednesday of the month from 9am-11am

Future Dates

May 9th, 2001

You can find us at
6300 Tower Lane, Suite 12
Sarasota, Florida
(941) 379-8988
Ask for Brian Stumm



LCN 2001

The 26th Annual IEEE Conference on Local Computer Networks (LCN)



Tampa, Florida
November 14-16, 2001

Conference Web site:
<http://www.ieeeln.org>

>>> CALL FOR PAPERS <<<

General Chair:

F. Huebner,
Concert Technologies

Program Chair:

P. Martini, *Univ. of Bonn*

Program Co-Chair:

B. Bakshi, *BioNetrix*

Finance Chair:

J. Bumblis, *Veritas Software*

Corporate Relations

Co-Chairs:

K. Christensen, *USF*

L. Jack, *Market Solutions*

Tutorial Co-Chairs,

Panel Co-Chairs :

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B. Stiller, *ETH Zürich*

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T. Strayer, *BBN*

Webmaster:

G. Kessler, *Champlain College*

Overseas Advisors:

S. Jha, *UNSW*

P. Martini, *Univ of Bonn*

Standing Committee:

M. McKee, *Bowling Green*

G. Kessler, *Champlain College*

E. Nolley, *Strategic Growth*

H. Salwen, *Audeon Networks*

K. Prasad, *UMass-Lowell*

Conference supporters:



The IEEE LCN conference is the premier conference on leading edge and practical computer networking. Our unique approach stimulates a workshop environment and enables an effective interchange among researchers, users, and product developers. During 25 years of this conference, we moved from the local network to the global Internet and World Wide Web. Now we move into the realm of Personal Area Networks, wearable networks and ubiquitous computing. Papers that cover these areas are explicitly sought and will be given preference. We encourage you to submit original papers describing research results or practical solutions. Paper topics include, but are not limited to:

- **Wireless Networks**
- **Personal Area Networks**
- **Wearable Networks**
- **Always On / Always Connected**
- **Mobility Management**
- **Location-dependant services**
- **Local Area Networks**
- **Home Networks**
- **Small Office Networks**
- **Storage Area Networks**
- **Optical Networks**
- **High Speed Networks**
- **Network Management**
- **Network Security**
- **Network Reliability**
- **Network to the Home**
- **Quality of Service / Congestion Control**
- **Adaptive Applications**
- **Anything-over-IP**
- **IP-over-Anything**
- **Performance Evaluation / Measurements**
- **Protocol Design and Validation**

Authors are invited to submit full or short papers for presentation at the conference. Full papers should present novel perspectives within the general scope of the conference and may be up to 10 camera-ready pages in length. Short papers are an opportunity to present preliminary or interim results and are limited to 2 camera-ready pages in length. A best paper award will be presented. Several student travel scholarships may be available courtesy of the LCN corporate supporters. All papers must include title, complete contact information for all authors, abstract, and keywords on the cover page. The correspondence author must be clearly identified.

Paper submission: Papers must be submitted electronically. Manuscript submission instructions can be found at <http://www.cs.bonn.edu/lcn2001>. Authors for whom electronic submission presents a severe problem should contact the program chair:

Prof. Dr. Peter Martini
University of Bonn, Institute of Computer Science IV
Roemerstr. 164
D-53117 Bonn, Germany
E-mail: lc2001@cs.bonn.edu

<u>Important dates:</u>	Paper submission deadline:	May 18, 2001
	Notification of acceptance:	July 20, 2001
	Camera-ready paper due:	August 17, 2001

CAREER OPPORTUNITIES

Beckwith Electric Co., Inc., located in Largo, Florida, is a leading manufacturer of innovative high quality products, technical services and solutions for the electric utility industry. We are seeking qualified candidates for the following positions.

COMMUNICATIONS ENGINEER

Electrical engineer familiar with wireless digital technology, cellular phones/pagers to design and implement digital data communications. Should have knowledge of modem technology, and be able to develop proprietary protocols for use with internally developed products. Implement standard protocols and be able to code and embed standard data transmission techniques including error checking. BSEE/BSCS and 5 years experience required. Must be familiar with digital data transmission for energy management systems and radio control of a wide spectrum of applications. Experience with IEEE802.11 wireless protocols a plus.

DSP SOFTWARE ENGINEER

Software engineers with experience in the areas of DSP, embedded controllers, assembly, and C software development. Exposure to hardware development is desirable and experience with communications protocols such as MODBUS, DNP, UCA, a plus. Four-year degree required (EE or CS preferred) and 2-5 years' DSP experience.

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Brain Teaser Challenge Column

By Butch Shadwell

April BTC Solution

I haven't been able to visit with the high school robot team in the last couple weeks, so I haven't heard what solutions they have produced for the thermal problems related to a space based robot. The answer to last month's BTC is convection, conduction, and radiation. These are the basic mechanisms that allow heat energy to move from one place to another. Of course it is important to realize that these heat transfers only happen from areas of higher temperature to areas of lower temperature.

If we accept this fact, how does the air conditioner remove heat from your home, which might be 78 degrees inside, and put it outside where the temperature might be in the 90's or higher? This is where physical chemistry comes in handy. $PV=nRT$ is called the ideal gas law. For the sake of this discussion, we can say that all of the terms in this equation are constants with respect to an air conditioner refrigerant gas except for P, pressure, and T, temperature. So we can see that the temperature of the refrigerant gas is directly proportional to the pressure. The gas leaves your home's interior at say 78 degrees, and then a compressor is used to raise the pressure of the gas to the point it becomes a liquid. This increase in pressure also raises the temperature of this liquid until it is much hotter than the outside air. While it is outside in the condenser core, the now very hot liquid gives up heat to the cooler outside air, and then the cooler liquid is returned to your home's interior. Now, there is a special device that allows the pressure on this liquid to reduce back to where it was before the compressor raised it. Since the gas has given up heat while it was outside, as the pressure is reduced to its original level the temperature is lower than it was when it left the house. This is how one type of heat pump mechanism operates.

May BTC

Charlie Fishbone was just entering his senior year at Whatsamatter U. in Frostbite Falls, MN. One of only three EE majors at this institution, some of his courses were taught by over-extended profs that didn't really have much electronics expertise. As they were required to produce a senior project, Charlie and his two EE buddies decided they would like to do a frequency domain analysis of the sounds produced by certain gaseous bodily emissions.

The eager lads built an A/D converter with parts that were available in the broom closet that doubled as the electronics lab. The particular parts they found could only sample at about 40ksps, but they figured that the Nyquist frequency of 20kHz would probably deliver very interesting results. Again due to lack of parts the boys took a simple microphone and preamp and connected them directly to the A/D input.

In order to test the performance of their system, they decided to take their digital information and put it through a D/A to verify that they had a good representation of the original sounds. To their surprise, there were some strange lower frequency buzzes and tones that were not noticed during the original gas ejecting events.

When the confused wire heads consulted Dr. Noenglishhere, he recalled reading something in his EE teachers handbook about aliens or false names that seemed to be important. He suggested that if these sounds included some ultrasonic components, this could be significant. The students were more confused. Maybe one of our brilliant readers can straighten them out with the correct name for this phenomenon, and what one might do to prevent these unwanted artifacts.

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/>

May 2001 Calendar of Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 <i>EXCOM Mtg TECO Ctr at 6:00 PM</i>	2	3	4	5
6 <i>IEEE PES Substation Committee Annual Meeting May 6-9</i>	7 <i>IEEE PES Substation Committee Annual Meeting May 6-9</i>	8 <i>IEEE PES Substation Committee Annual Meeting May 6-9</i>	9 <i>Joint ASME & FWCS-IEEE Mtg Tour of Publix Dairy Plant 6:30 PM</i>	10	11 <i>Material Due For Next Month's SIGNAL</i>	12
13	14	15	16	17	18	19
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27	28	29	30	31		

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