



THE SUNCOAST SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

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

Volume 43 - No. 6

June 2000

Joint Section & PE/IA Chapter June Meeting *Tour of the Ybor City Brewery*



DATE:	Thursday, June 22, 2000
TIME:	4:00pm Gather near the Hospitality/Fire Escape end of the Building
LOCATION:	West Side of Ybor City Brewery, Ybor City (Just off of I-4)
RESERVATIONS:	James Reed at (813) 483-2271
COST:	Free

For those of you who have ever wondered how bugs can turn organic into alcohol, plan to attend this month's joint Section & Power Engineering Society technical tour. The event will be located at the Ybor City Brewery on Thursday, June 22nd at 4:00 PM. We will gather near the Hospitality/Fire Escape end of the building (West End.) For those that are not familiar with this company, this is an opportunity to see how a simple idea and some new approaches to an age-old phenomenon can still make millions of dollars. Cost is free and "may" include a free sample. Registration can be made with James Reed at 813-483-2271.

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Chair's Comment

by Al Rosenheck

In 1958, when I received my BSEE degree the Cold War was at its peak. To meet the challenge, American military aerospace industry became the world technology leader. Now, 43 years later the USSR member states have become independent and the arms race appears resolved. And we have seen the emergence of high tech commercial industry as the new world technology leaders. A technology revolution led by computers and communications has occurred and found its way into virtually every aspect of our lives.

As technology has advanced, the IEEE-USA was created in 1973 to promote the career and public policy interests of the IEEE US members. A major impact we face today is the increased demand for engineers. To meet this need, industry is working to influence Congress to change immigration policy to allow more engineers to immigrate to the USA. But that may not be the correct answer and has been challenged as being self-serving to industry – basically a means to hold down costs.

Alternative solutions to meeting the increased demand for qualified professional engineers should be considered, such as:

- Engineer retraining programs,
- Working with our country's youth helps them understand and appreciate engineering as a profession;
- Actively encouraging those groups who have not traditionally chosen careers in engineering (such as women) to consider the profession.

It is through the IEEE-USA that members can help advocate policies that advance our interests. Immigration reform is just one of the agendas supported by the IEEE-USA. If you wish more information, contact Vin O'Neill in our Washington DC office at v.oneill@ieee.org.

Florida West Coast Section Power Engineering Society takes 1st Place in Membership Development!

by James Reed
PE/IAS Chairman

I would like to take a few minutes of your time to let everyone know that PES took first place for membership development for the year 1999. All the thanks go to the new members. Without your enlistment, this achievement would not have been developed. I also would like to welcome all of the new members that we have received throughout the past. I hope that our service is providing what you want and need. If you have any comments or suggestions, please let us know.

Florida West Coast Chapter IEEE MTT/AP/ED June Meeting

“Beat the Heat” Summer Chill Series:

System on a Chip, Parts 1&2 (An EDS Videotape Short Course)

DATE/TIME: Tuesday, June 13, 2000 6:00 pm
--

LOCATION: Raytheon Systems Company St. Petersburg, 1501 72nd Street North,
St. Petersburg **Gill Robb Conference Room**

RESERVATIONS: Leave name & country of citizenship with Greg Bonaguide at (727) 302-3367.
Email: g.bonaguide@ieee.org. Bring a guest, non-members welcome! (Refreshments will be provided.)

ABSTRACT:

The scaling of silicon technology below 0.25um is characterized by aggressive exploitation of device technology and the integration of “new” materials such as copper, low dielectric constant insulators, and SOI substrates to extract greater performance. In spite of technological hurdles, the trend towards miniaturization and lower operating voltages permits an ever-increasing degree of functional integration with the potential for dramatic improvements in performance, cost and power at the systems level. SOC designers must functionally integrate disparate elements such as logic, analog, and memory circuits. This course attempts to address these different requirements and the methods to meld them into a complete and meaningful single chip solution. In cases where the technology does not permit, a single chip-like approach may be needed.

Tape 1: System-on-a-Chip (SOC) - Introduction and Systems Perspective (53 minutes)

Tape 2: Design and Test Aspects of SOC (1 hour 38 minutes)

The first lecture addresses the motivation for single chip solutions from a systems perspective. The second lecture describes design and test challenges for a system-on-a-chip device and presents methods for dealing with them.

COMING ATTRACTIONS:

Tape 3: (July 18) “Embedded Volatile and Non-Volatile Memory”

Tape 4: (July 18) “Embedded Analog Technology”

Tape 5: (August 15) “Packaging Options for SOC”

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 - 2ND FLOOR – ENGINEERING.

Greetings from Richard L. Riddle, IEEE Region 3 Director 2000-2001

Greetings to the over 2,000 members of the Florida West Coast Section. I was honored when your Suncoast Signal Editor Quang Tang asked me to submit an article for publication in your distinguished newsletter. It **sure is nice** to address members of one Section within our Region that seems to be doing things right. So much of my time is spent in attempting to help those Sections within our Region that are struggling to stay alive and active that I find addressing you a welcome change.

In my report to the Regional Activities Board I gave the following as some of my goals for 2000:

1. To do all that can be done to improve the relationship between our Region and the Technical Societies.
2. To assist our inactive or dormant Sections and Chapters in rejuvenation.
3. To improve our communications between the region's leadership and the region members.
4. To insure that the region remains a premier region in IEEE by providing the necessary training for our leadership and adopting initiatives that will insure our success.

I am happy to report to you that some progress is being made in improving the relationship between our Region and the Technical Societies. We held our first Society President's Reception at SoutheastCon 2000. The purpose of the meeting was for those Society Presidents that live in Region 3 to meet informally with the Region's officers and to discuss how we can help achieve our common goals of serving our membership. Although I was disappointed that the five Society Presidents that live in Region 3 could not attend, the Engineering Management Society was well represented and has recently started a major initiative to reactivate several inactive Chapters. In addition the Regional Activities (RAB) and Technical Activities (TAB) Boards have made a renewed effort to achieve a closer relationship. Several get acquainted meetings for the Society Presidents, Regional Directors have been scheduled at the June 21-26 Board Of Directors Series. I am looking forward to meeting some of the Society Presidents for the first time.

Some progress has been made to rejuvenate our inactive or dormant Sections and Chapters. Your Section's own James Howard, Region 3 Director-Elect heads a Region 3 committee devoted to this effort. A major problem is the inability to find Section members who are willing to serve as officers. The lack of members willing to serve as officers is not unique to inactive Sections but also continues to be a problem in small and large Sections that are still active. I encourage you to join Jim's committee and help him with this most worthy initiative.

As many of you know Region 3 has initiated a project to improve communications between our Regional leadership and the members by utilizing electronic conferencing. The E-Conferencing Committee, with Bill Ratcliff as Chair has developed a set of tools and techniques that have been used to conduct a number of very productive meetings. The application of our electronic conferencing concept to our meetings not only has saved the time and expense of traveling to face-to-face meetings but has improved communications between our regional/section/chapter leadership. For those that are interested in this project I suggest you read the IEEE-USA Feature Article, 1 May 2000 at the following URL: <http://www.ieeeusa.org/features/econferencing.htm>

I recently received word from Antonio C. Bastos, IEEE Vice President Regional Activities that the IEEE Finance Committee will recommend to the IEEE Board of Directors that in 2001

- the full-paying member dues be increased \$11 (i.e. from \$86 to \$97);
- that student dues remain constant at the current level;
- that affiliate fees be increased \$10 (i.e. from \$35 to \$45);
- that the multiplication factor will be removed and the minimum income level will remain at \$8,600.

At this time no rationale for the increase was given. I feel that I should oppose the increase in member dues for the following reasons: This action will just start another round of finger pointing and incrimination between IEEE organizations that we saw in 1998 - 1999 when rumors of the new financial model were bandied around. In my view this action will be counterproductive to the efforts many of us have made to bring RAB, TAB, and IEEE-USA together as one team. I find it particularly paradoxical that this action would be taken in view of the IEEE Executive Committee's presentations on the excellent financial condition of IEEE.

I am interested in your views on this issue or any other issues that may concern you. My e-mail address is: r.riddle@ieee.org

I compliment the Florida West Coast Section leadership for the services you have provided to the members served by your Section and in particular the leaders you have provided to our Region. Regional leaders such as Jim Howard, Joey Duvall, and John Twitchell are a few that come to mind. My best wishes for the continued success of your Section and hope that other Sections within our Region will emulate your success.

Hissey Receives AAES Roe Award for Promoting Engineering Unity

IEEE Director Emeritus Theodore W. Hissey, Jr. received the AAES Kenneth Andrew Roe Award given "on behalf of the engineering community to recognize an engineer who has been effective in promoting unity among the engineering societies." Mrs. Hazel Roe presented the award during the 21st annual awards ceremony held 8 May in the Great Hall of the National Academy of Engineering in Washington, DC. In accepting, the IEEE Director Emeritus noted the profession's laudable efforts in improving engineers' collaborative business skills.

Hissey is an engineer, technical manager, and consultant in electric power network automation and electric power sector restructuring. He has been a longtime volunteer and corporate leader with the IEEE and the Institute's Power Engineering Society. From 1997-98, Hissey was President of the United Engineering Trustees, during its transition to the current United Engineering Foundation. He worked for 43 years in engineering and management at Leeds and Northrop Co., a unit of General Signal. Hissey is currently an Executive Consultant for KEMA Consulting, based in Fairfax, VA, and Horsham, PA.

Pinellas County Elementary District Health-Science Fair

by Ralph Fehr

The Pinellas County Elementary District Health-Science Fair was held Friday, May 5 at Pinellas Parkside Mall. A total of 230 entries were displayed from 45 schools. The quality of the entries was exceptional, with 99 Exemplary and 79 Superior awards being given. The Florida West Coast Section acknowledged 23 students who entered exhibits dealing with electricity and magnetism by awarding certificates of recognition. Two of these students were also acknowledged for submitting outstanding entries.

Alaina Cribbs, a fifth grade student from Southern Oak Elementary School, conducted an experiment to verify fundamental electrical laws by changing light bulb wattage in a DC circuit and measuring voltage and current to calculate power. Alaina thoroughly explained the basic relationships involved, and even justified the slight measurement errors encountered.

Kyle Weichman, a fifth grade student from Madeira Beach Elementary School, built a working model of a train that operates by magnetic levitation. Kyle's exhibit explained the basic principles involved, cited present-day applications, and speculated on future applications of the technology.

Both Alaina and Kyle were awarded \$50 U.S. Savings Bonds for their outstanding effort.

Like Receiving Your Suncoast Signal Electronically?

by John Conrad

As a new service to our members we are running a four-month experiment with a section email list. This is how it works.

Last month we downloaded all email addresses from the FWCS database provided by Piscataway. A list of the April meetings and an electronic version of the Signal newsletter, in Adobe Acrobat format, was sent to all addresses shortly after the paper Signal went to the printers. Many Emails "bounced" and these addresses have been removed from the list. Each month the Electronic Signal will be sent to everyone on the FWCS Email List.

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

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

USF Engineering News: Mini-Circuits EE Project Poster Presentations

by Rudy Henning

On April 28 the Electrical Engineering Department held its first Mini-Circuit Poster Presentations; such presentations will henceforth be required of all BSEE graduates as part of their Senior Design Projects. Presenters employed current engineering communication practices; they made brief oral presentations aided by up to eight visual aids mounted on a single poster. Presentations were judged by several faculty members and practicing industry engineers. (See photos of event below) Presentations judged to be of high quality received such Special Recognition as a \$75 USF Bookstore gift certificate and an Electrical Engineering Department's certificate attesting to the quality of their efforts. All presenters received a laser pointer.

The event was conducted similar to Poster Sessions held at professional engineering conferences - it was open to visitors and the students could tour their peers' presentations. Refreshments were available for informal meetings and discussions between students, faculty and industry visitors. Visitors and judges alike were impressed by the quality and variety of the presentations and valued the opportunity to participate in this activity. The students' competitive spirit and enthusiasm, Mini-Circuits support, and industry's engineers and faculty judges made this a stimulating and memorable event.

The following students received Special Recognition:

William Skidmore

Steven Tasi

Darren Norman Jenkins

Robert Myer

Charles Novak

Lori Hall

Lester Lopez

Pierfranco Issa

Mark Dubuis

Jeffrey Seward

The following faculty and industry engineers were judges:

Dave Snider

Ken Buckle

Mark Strain

Tom Wade

Tom Weller

Robert Marchant

Horace Gordon

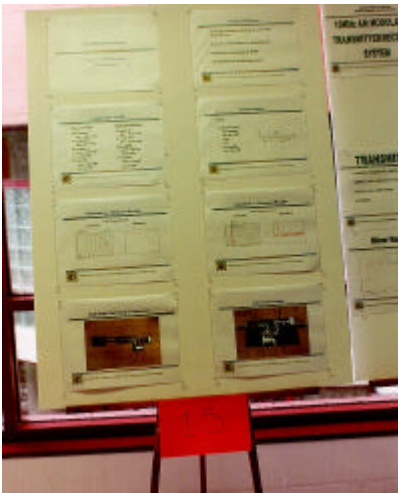
Chris Ferekides

Craig Sapashe

Drew Hoff

Mike Oldenburg

The next Mini-Circuit Electrical Engineering Project Poster Presentation will be held in early December.



Brain Teaser Challenge Column

by Butch Shadwell

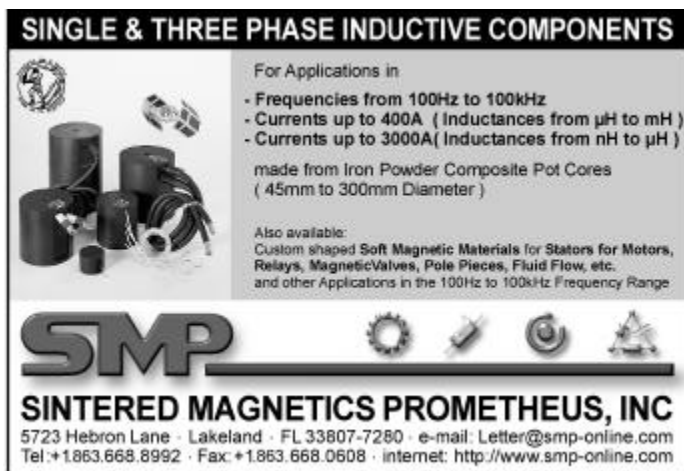
May BTC Solution

Since this column is delayed in many areas, I am going to wait another month to report the hit counter on my web site. However, I can report that there were several correct respondents to last month's BTC as I am writing this piece. Clearly this one was for the communications buffs in the group. In case you don't remember, my cousin Bob in Bihar was borrowing access on a neighbor's T1 connection to the net. The correct answer was that he needed a four pole double throw (4PDT) switch to do the T1 transfer.

June BTC

What's the deal with "Hall Effect" devices? I've never seen one in the hall, and what possible effect can the hall have on anything anyway? Let's imagine that you are a negative charge running down the hall. And suddenly, without warning, someone applies a huge horseshoe magnet with the north pole on the ceiling of the hall and the south pole under the floor of the hall. Would you find yourself bouncing off of the wall to your left or your right as you run past these poles?

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.ccse.net/~butchs/>).



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2000 Review Seminars **For** **PE Electrical and EIT/FE** **October 27 & 28 Examinations**

Review seminars for the PE (Electrical) and Engineer In Training / Fundamentals of Engineering (EIT/FE) exams will begin:

Tuesday, Aug. 1 for the EIT/FE Exam &
Thursday, Aug. 3 for the EE Exam

Seminars are conducted from 7-10 P.M. (Tues or Thurs) for ten weeks. The registration fee is \$225 and includes text. The seminars will tentatively be held at the TECO Plaza in downtown Tampa.

To register, contact: Alan M. Keith, P.E., PO Box 14042, (EC51), St Pete, Florida 33733

Alan.M.Keith@fpc.com

Phone (727) 384-7937, FAX (727) 384-7994
Pinellas Chapter, Fla. Engineering Society

June 2000 Calendar of Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
4	5	6 <i>EXCOM Meeting TECO Data Center 6:00 PM Guests Welcome</i>	7	8	9 <i>Material Due for Next Month's SIGNAL</i>	10
11	12	13 <i>MTT/AP/ED June Meeting "Beat the Heat" Video course 6:00PM</i>	14	15	16	17
18	19	20	21	22 <i>Joint PES/IA & Section June Meeting – Tour Of the Ybor City Brewery 4:00PM</i>	23	24
25	26	27	28	29	30	

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