



THE SUNCOAST IEEE SIGNAL



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

<http://ewh.ieee.org/r3/floridawc> Volume 46 - No. 2 February 2003

Celebrate Engineers Week Luncheon

Florida High Speed Rail Project

Sponsored by PES & IA Society Chapters



Date: February 20, 2003

Time: 11:30 AM

Location: TECO Hall, Tampa Electric, 702 N. Franklin Street Tampa

Speaker: Mr. Howard Newman, P.E., Project Manager, Parsons Corporation

Costs: Members \$10, Non-members \$20, Student Members \$5

Registration: On-line at http://www.ewh.ieee.org/r3/floridawc/pes_titles.html



The Florida High Speed Rail Authority is moving forward with the development of a state system that will first operate between Orlando, Tampa and St. Petersburg with future service to Miami and other urban centers around the state. In Florida, the proposed high speed rail system will be constructed on tracks or overhead guide-ways that will be separated from automobile traffic. High speed train technologies are not limited to conventional steel wheel-on-steel rail systems. A frictionless magnetic levitation system (Maglev) also is being considered.

The Authority is currently conducting public meetings, preparing an Environmental Impact Statement and preparing detailed ridership estimates for the project. Construction is scheduled to begin in November 2003.

For further information or direction to meeting location, please call Art Nordlinger at 813-630-6203.

CELEBRATE ENGINEERS WEEK BANQUET

Friday, February 7, 2003

5:30pm - Social, 7:00pm - Dinner, 8:15pm - Program

A La Carte Event Pavillion - 4050 Dana Shores Dr., Tampa, FL 33634

(813) 381-5390 Website: <http://www.event-pavilion.com/>

Speaker: Ms. Jan Corbin, Software Systems Engineer, NASA

Emcee: Mr. Dick Crippen, Television Personality

Entertainment: Caricaturist, Magician, Musicians

Check out pages 5 & 6 for more details

Seating is limited. Make your reservations today!



National Engineers Week®

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

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Chair's Comment

By John Conrad



I am pleased to announce that Richard Beatie has agreed to become the Awards Chair for our Section and Jim Anderson has agreed to take over as section Webmaster. All Executive Committee positions are now

filled so we are in a strong position to provide a full and varied program of events for our members throughout 2003. (Be assured that this does **not** mean that we are no longer looking for volunteers to get involved with section activities. We always welcome free help and there are always opportunities available - as Joe Kurupacheril found out at the January EXCOM meeting. Joe has just arrived from India and will be working in Tampa for a year so he came to the EXCOM meeting to get to know the IEEE members in the area and left the meeting with the job of auditing the 2002 financial statements!)

This month we received a Certificate of Appreciation from the IEEE Regional Activities Department for supporting the formal creation of a Graduates of the Last Decade, GOLD, affinity group within our section. Congratulations to Dennis Trask the leader of this revitalized group. Dennis has already organized a couple of meetings and has more planned.

For those of you who have not been involved with the IEEE organization you may be interested to learn that last week I attended a planning meeting for the annual Industrial & Commercial Power Systems Conference that FWCS will be hosting here in April 2004. Yes, Jim Beall is already planning for this 150-attendee conference, even before the 2003 conference has been held. These events require a lot of organization and many, many meetings but Jim has everything under control.

We have received nominations from Pasco, Pinellas and Hillsborough county schools for the annual Lignell Awards for outstanding math and science teachers in the three counties. We will be presenting these awards to the three winning teachers at our Awards Banquet on February 7th. Have you bought your ticket? Seating is limited so purchase your tickets today.

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Life Members Must Renew in 2003

The ranks of Life Members have been swelling in recent years. This is reflective of a natural rise resulting from the continued, long-term growth of the IEEE membership population and ever increasing life spans. To achieve Life Member status, a member needs to be at least 65 years old, and have a combined age and years of IEEE membership equal to or greater than 100 (e.g., 68 years old with 32 years of active membership). Once a member reaches Life member status, their IEEE dues and Regional assessments are waived. This year, however, Life Members are also being required to return their renewal notices in order to keep their membership active. Life Members who do not respond by returning their renewal forms will have their memberships deactivated as of the end of February.

Any questions regarding to this change, please contact your Membership Development Chair, Ms. Rosemary Dakos by phone (813) 792-2215 or by her email at rdakos@tampabay.rr.com.

Education Corner

By Zhen Tong

Unemployment rate has risen in recent years. The weak economy has affected all areas including high techs. How to survive this down turn? Continuous education and training is the key to keep our heads above the rising water. Therefore, we provide our members this Education Corner. From time to time, we will provide learning, training and seminar information inside and outside IEEE.

IEEE provides some excellent resources on the web site. If you are an IEEE Computer Society member, there are free distant learning classes available to you at: <http://www.computer.org/distancelearning/>. If you have not registered on the IEEE web site, you can register one using your IEEE membership number. By doing so, you have the privilege to access all kinds of classes including, but not limited to Oracle, Java, Cisco, HTML, C++, Project Management and start learning on your own pace.

If you have any educational information that will benefit our members, please drop me an email at: tong@ieee.org. So, we can share your information on the news letter. Altogether we can maximize the benefit to all our members and make learning an exciting experience.

Section Recognized for Support of GOLD

By Dennis Trask, GOLD Chair

On Tuesday, December 7, at the FWCS Executive Committee meeting, I presented to the Section a certificate from the Regional Activities Board recognizing the Section's efforts in the creation of a new GOLD Affinity Group. For those of you that have not heard, GOLD, which stands for "Graduates of the Last Decade," is an institute-wide initiative to provide service to the younger engineer. The Institute wants to focus on the special issues facing this demographic, such as burgeoning careers and new financial responsibilities.

As GOLD Chair, I would like to add my thanks to the Section Executive Committee for supporting this new affinity group. Through the GOLD Affinity Group, the Section helps GOLD members by hosting events which are interesting, informative, and fun. At these events, members gain insight that helps them to grow in their careers and handle issues with which they might be struggling. More importantly, members get a chance to meet and talk with others who have similar problems and issues.

I encourage our GOLD members to take advantage of these opportunities throughout this year. Also, if you have any suggestions for events, presentation topics, or anything else that can make this new GOLD group more effective, please feel free to contact me. My phone number is (727) 393-4009, and my e-mail address is d.trask@ieee.org. I look forward to hearing from you. Stay tuned to the Signal for future GOLD events.



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February Computer Society Chapter Meeting

Software Design:

"An Overview of .NET Application Development"

Date/Time: Thursday, February 13, 2003, 6:00PM to 9:00PM

Location: MicroSoft Sales/Support Office
6200 Courtney Campbell Pkwy, Suite 480
(Next door to the Hyatt Regency Westshore Hotel)
Tampa Office - <http://www.microsoft.com/usa/offices/tampa.asp>

RSVP: Joe Healy – jhealy@microsoft.com – (813) 281-3911

Developers often get zeroed in on ASP.NET applications, ignoring the other application types that .NET can build, helping with robust and scalable enterprise solutions. This presentation is an overview of the .NET Frameworks and managed code architectures. It will cover total .NET development options by building the full range of available .NET application types. Applications built will include console applications, normal and auto-deployed Windows forms applications, Web applications, Mobile (WAP/WML) applications, NET Compact Framework Pocket PC applications, Web Services, Web Services Clients, "Remoting", and Windows Services. This is an open meeting. Non-members and students are welcome. Pizza and drinks will be provided. Additionally a full retail copy of VS.NET will be given away.

Joe Healy is a Developer Technology Specialist for Microsoft Gulf States Region. He is a frequent speaker at MSDN quarterly events, and is tasked with promoting and supporting Visual Studio.NET and the .NET Frameworks to developers in the Gulf States.

Directions:

See the Website at <http://www.microsoft.com/usa/offices/tampa.asp>

2003 Review Seminars University of Central Florida For PE and EIT/FE April 11 and 12 Examinations

Review seminars for the PE (Electrical, Mechanical, Industrial) and the Engineer In Training / Fundamentals of Engineering (EIT/FE) exams will be held as follows:

Industrial	Tuesdays & Thursdays	02/25/2003	\$400.00
Mechanical	Mondays	02/10/2003	\$400.00
Electrical	Tuesdays & Thursdays	02/03/2003	\$400.00
EIT/FE	Tuesdays	02/04/2003	\$450.00

The seminars will be held on the main UCF Campus in Orlando. To register, contact Mickey Gravois, PO Box 162993, College of Engineering and Computer Science, University of Central Florida, Orlando, FL 32816

mgravois@mail.ucf.edu

Phone: (407) 823-2796

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
Website: <http://www.event-pavilion.com/>
Speaker: Ms. Jan Corbin, Software Systems Engineer
NASA at Kennedy Space Center
Emcee: Dick Crippen, TV Personality
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



ASME International



IEEE



Ticket Prices: IEEE Members \$10.00 for one - \$25.00 for two. Non-members \$25.00 each, \$40.00 for two.

What is the Celebrate Engineering Banquet about? Five major engineering societies in the Tampa Bay area joined forces to promote engineering awareness within our own societies and the local community, in conjunction with the promotion of National Engineers Week, co-sponsored by IEEE Florida West Coast Section and many other engineering societies during early February.

Awards to Heros:

Each society will recognize outstanding officers and members for their contributions and accomplishments in the engineering community and profession, for engineering and technical achievement. Join us in congratulating them for their accomplishments!

Kim Lignell awards will be presented to 3 outstanding teachers. This award is given annually in memoriam to Mr. Lignell, an IEEE officer who dedicated his support to promoting engineering education in the schools, to a science/math/physics teacher from Hillsborough, Pinellas and Pasco Counties. These teachers are selected by vote from their peers, and are outstanding examples of the quality of education our future engineers and scientists are receiving in high school. This year's Lignell Awards are being co-sponsored by Honeywell and Seminole Electric Cooperative Inc.

Guest Speaker:

Ms. Jan Corbin began working for NASA at the Kennedy Space Center in January of 1991. Prior to that she worked for the Martin Marietta Corporation both in New Orleans at the Michoud Division and in Orlando for the Electronics Division. Jan is a software systems engineer.

Jan is currently assigned to the International Space Station/Payloads Processing Directorate. She is the lead software systems engineer responsible for the integration of the hardware and software of the truss elements.

Currently, Jan is completing work on her Doctorate at the University of Central Florida (UCF) in Information Systems and Technology. She has completed her Masters in Business Administration from UCF in 1993, and a bachelors of science in Chemistry from Mississippi State.

Jan was raised on the Mississippi Gulf Coast area where her family still resides. Her home is Titusville, where she lives with her daughter and husband.

CELEBRATE ENGINEERS WEEK BANQUET

Entertainment:

For your most memorable experience of the year we have lined up a complement of entertainment to enhance your enjoyment of the evening! Start out with a musical serenade by local musicians to put you in the mood throughout the evening. Wander over to the caricaturist, to have your face emblazoned on canvas in a silly pose! Watch out for the strolling magician, who will undoubtedly pull a few unexpected tricks on you!

Mr. Dick Crippen, locally renowned TV sportscaster and currently spokesman for the Tampa Bay Lightning, will be our Emcee for the evening! He will not only pace the meeting, but keep us all in stitches with his stories and anecdotes, plus hand out many door prizes!

Sponsors/Vendors:

A number of vendors and sponsors have again graciously agreed to support our Celebrate Engineering Banquet. Because of their generous support, the Committee is able to provide this elegant event to our members at a significant discount (50%) over what it actually costs us to provide it to our members.

Vendors will have tables set up at the banquet. We encourage all attendees to visit their exhibits and thank sponsors personally for helping to support your Celebrate Engineering Banquet. Without their dedicated support the Committee would not be able to provide you the elegance you will experience at such an affordable and reasonable cost!

New vendors/sponsors who would like to participate in our wonderful venue should contact P.J. Crespo at pj.crespo@mech-solutions.com or Cliff Powell @ clipowell@tycoint.com. All contributions are tax deductible!

Reservations:

Reservations must be made in advance for planning purposes – no reservations taken at the door! Contact your society representative for tickets or reserve online at: <http://weiquality.com/celebrate2003>. Tickets 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.

Don't Delay – Reserve Now – We Want to See You There!

<i>Return this Reservation Form to John Conrad, 19824 Wyndham Lakes Drive, Odessa, FL 33556 CELEBRATE ENGINEERING 2003 BANQUET – Friday, February 7, 2003</i>			
<i>Name</i>		<i>Partner's Name</i>	
<i>Company Name:</i>		<i>Email</i>	
<i>Professional Society:</i>			
<i>Address</i>			
<i>City</i>	<i>State</i>	<i>Zip Code</i>	
<i>Work Phone ()</i>		<i>Home Phone ()</i>	
<i>No. Tickets @ \$25 each, \$40 per couple</i>		<i>Amount Enclosed \$ (Check payable to IEEE-FWCS)</i>	
<i>Dinner Choice</i>	<i>Vegetarian</i>	<i>Prime Rib</i>	<i>Chicken</i>

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It is as easy as it sounds! So if you give to the IEEE Foundation General Fund, the Trustees of the IEEE History Center Fund, the Life Members Fund, the IEEE-USA Fund or Special Named Funds administered by the IEEE Foundation, please consider making the most of your gift by taking advantage of your employer's Matching Gift Program today.

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Brain Teaser Challenge Column

By Butch Shadwell

January BTC Solution

Last month, I was particularly distracted. I think I tend to ramble in many of these BTCs, but last month was worst than most. I hope I didn't turn anyone off too much. And I hope that this brief explanation hasn't turned anyone off too much either.

In the last BTC, you were asked about the use of neural nets in numeral optical character recognition. The US Post Office has been using this technology for many years now and I think most folks would be a little surprised to hear just how simple a basic neural net OCR system can be. First the input layer on many of these systems has only nine neurons. Each one is looking at the average brightness in one of a three by three pixel representation of the numeral in question. Of course there is other software to find the numerals on the page. In each neuron there is a set of weighting factors, which may be positive or negative. The inputs are then processed by a simple multiply-accumulate function for each of the dendritic connections. Then there is a sigmoid transfer function that determines if the neuron satisfies the conditions to fire an action potential. These nine input neurons then feed signals to a hidden layer, which may have as few as four neurons but perhaps more. Then the output layer must have the same number of neurons as there are output states, i.e. – ten. Unfortunately, one or two poor souls who sent me answers had a brain burp and said that the numerals from 0 to 9 only needed nine states. Count again dear friends.

February BTC

I have always been a big fan of the Larson comics. I guess I flatter myself to think that he and I share a similar sense of humor. One cartoon in particular always comes to mind when I think of the Larson stuff. He did one many years ago where he portrayed some mad scientist having emerged from his lab, after years of intensive research, with a special helmet that enabled the wearer to understand every thing that dogs say. The complex collection of sounds and subtle cues that dogs use to communicate were instantly translated into English for the wearer. Then as the scientist walks down the street amongst the neighborhood dogs, in order to test his new invention, he hears what we've all been dying to understand. As it turns out, every bark, whine, and whimper entered the wearer's ears as the word "Hey". I found this to be incredibly intelligent of Larson, for when one thinks about it, by varying the intonation, one can express just about everything dogs might want to say with that one word.

So, if you were interested in building the contraption described by Larson, one might need a simple constant current source with voltage compliance from 5 to 20 volts DC (load resistance varies from 10k to 40k ohms) at 0.5 mA (+/- 10%). And suppose you happened to have a 2N5457 (data sheet is available download or viewing at <http://www.onsemi.com/pub/Collateral/2N5457-D.PDF>). I am looking for the simplest and cheapest circuit configuration to meet this need. I would like to see component values, and you may use other semiconductors in addition if you wish. And I don't own any stock in ON Semiconductor, it was just the easiest place to find the data sheet.

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

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February 2003 Calendar of Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4 <i>IEEE FWCS EXCOM Meeting at 5:30pm TECO Plaza</i>	5	6	7 <i>Celebrating Engineers Week Banquet at 5:30pm A La Carte</i>	8
9	10	11	12	13 <i>Comp Society Chapter Meeting "An Overview of .NET Application Development"</i>	14	15
16	17	18	19	20 <i>PES/IAS Chapter Meeting "Florida High Speed Rail Project" at 11:30</i>	21	22
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