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Polk, and Sarasota Counties



# THE

# SUNCOAST

# SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

Volume 49 — No. 12

<http://www.ieee.org/fwcs>

December 2006



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# IEEE



## Seminar on Motor Theory & Softstart Technology & Factory Tour.

**Speakers:** Michael Prater, GM,  
Stock Production Group –  
Motors, TECO Westinghouse  
Bill Jones Jr., Benshaw, Inc.,  
General Manager, Medium  
Voltage Products Division

**Date:** Thursday, December 7, 2006  
**Time:** Seminar - 8AM to 1PM  
**Tour** 1PM – 2PM  
**Location:** 6312 78<sup>th</sup> Street, Riverview, FL  
33569-8835  
**Cost:** \$100 Members, \$175 Non-  
Members Incl. Breakfast, Lunch

**Credit:** 4 PDH are awarded

**RSVP:** Online at:

<http://time2meet.com/fwcs-pes3/index.html>

Space limited to the first 50 registrants!!!

Make checks payable to: IEEE FWCS. Send checks to:

Ralph Painter, IEEE FWCS Treasurer

648 Timber Pond Drive, Brandon, FL 33510-2937

**Questions:** Tom Blair at 813-228-1111, ext 34407 or [thblair@tecoenergy.com](mailto:thblair@tecoenergy.com)

IEEE invites you to this 4 hour seminar on motor theory and application of Softstarts.

Mr. Michael Prater and Mr. Bill Jones Jr. will be the presenters.

See Tampa Armature Works on p. 3.



## Enjoy your holidays!

### Other events this month

There is still time to go to  
**WAMICON Dec 4, 5 See p. 7**

USF EE Senior Awards Banquet—12/8 p. 6

Professor Matt Basham: "Maintaining Network  
Security & Our Freedoms"—12/12 p.5



Correction: In this photo last month, your editor provided the wrong names for the two men. Their names are Chris Ferekides and Don Morel. Irene Wiley is the third person.

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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 in electronic form by 1<sup>st</sup> Friday after the 1<sup>st</sup> Tuesday of the month preceding the issue month.

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## *(Editor's Column)*

I am pleased that this is a very full issue and will simply say:  
*Have a joyful and healthy holiday season.* —PS





**Richard E. Beatie, P.E.**  
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## *WISE Seeks Applicants for 2007 Program*

Washington Internships for Students of Engineering (WISE)

Each year, outstanding engineering students are selected to spend nine weeks in a special summer program in Washington, D.C. to learn how government officials make decisions on complex technological issues and how engineers can contribute to legislative and regulatory public policy decisions. The 2007 program will run from 4 June to 3 August 2007.

The WISE Program is ranked as one of the best Internship opportunities in the U.S. by the [Princeton Review](#).

Applications are now being accepted for the Summer 2007 program. The [application](#) deadline is 31 December 2006. See link: <http://www.wise-intern.org/>



## *IEEE-USA'S Services for Unemployed Members—How are we Doing?*

The IEEE offers a number of resources to aid IEEE members during periods of unemployment or involuntary career transition, including job listings, insurance reduced membership dues, quick-response workshops, consultants networks and fee surveys, online legislative action center, local Section and PACE Network presentations, the IEEE-USA Salary Service and more. IEEE-USA needs your help evaluating its career resources for unemployed US IEEE members. If you are or have recently been unemployed: 1) Were you aware of the aforementioned resources? 2) Did you make use them? (if yes. Which ones?) and 3) How was your experience?

Please send your candid responses and mail to: [mailto:ieeeusa@ieee.org](mailto:mailto:ieeeusa@ieee.org). All comments will be kept confidential.

## 2007 CELEBRATE ENGINEERING

An Open letter

The Florida West Coast Engineering Alliance will be holding its 7<sup>th</sup> annual "Celebrate Engineering" Awards Banquet (CEB) on February 16, 2007 at the Wyndham Westshore hotel in Tampa. Because you are a part of our great engineering society, we invite you to once again be a part of this premier annual engineering event in the Tampa / St. Petersburg area.

As great as the CEB 2006 was, in 2007 we are looking to outdo ourselves!

**This year we're dreaming about going to the moon and beyond. Thomas Pentrack, NASA's Deputy Director for the International Space Station (ISS) will be our keynote speaker. He'll tell us about what we've achieved so far and the role that the ISS will play in helping us start our journey to the other planets.**

Besides being a good time, CEB 2007 will be a wonderful networking event bringing together local leaders and engineering professionals to recognize the outstanding achievements of Engineers, Science & Math Teachers and Students in our community. You will certainly benefit greatly when you attend this event.

Check on the latest details and register for this event at: <http://ewh.ieee.org/r3/floridawc/celebrate/> Look forward to seeing you all there!

—David Figueroa, Registration Chair



### *EMBS chapter is coming to Tampa Bay!*

We are pleased to announce that the formation of the IEEE-FWCS Engineering in Medicine and Biology (EMBS) Chapter was approved during the November 7, 2006 FWCS Executive Committee meeting. The objective of the EMBS chapter is to bring speakers in the field of biomedical engineering, as well as offer other support services to the EMBS community and Engineering community at large. The formation of this chapter was met with enthusiasm, due to the new possibilities that this chapter will bring to the FWCS.

The continued success of FWCS EMBS chapter will depend on your interest and involvement. We still have a few positions including secretary and treasurer available to complete the team of Founding Officers. If you are interested in helping with getting this Chapter up and running, please contact Ravi Sankar at [r.sankar@ieee.org](mailto:r.sankar@ieee.org) for details. All comments and suggestions for the upcoming activities of the chapter are welcome.

## *Tampa Armature Works (cont. from p 1)*

Mr. Michael Prater, with TECO Westinghouse will discuss large motor construction and application issues. Michael Prater graduated from Texas Tech University with a BSEET degree in 1986 and worked briefly for Siemens. In 1987, he became a Product Specialist for motors at TECO American Inc. Mr. Prater then transferred to Westinghouse Motor Co. to be the TECO Liaison Manager. He is currently the General Manager of the Stock Motor Product Business Unit at TECO-Westinghouse Motor Co.

Mr. Bill Jones Jr. is currently the General Manager of Benshaw Inc.- MV Products Division and has been with Benshaw for 8 years. He is presently responsible for all MV (up to 15KV) engineering activities, coordination of U.S. MV manufacturing and supply chain operations in addition to the global product line management of Benshaw's MV business. Prior to Benshaw, he was employed with ABB Service, Inc. in the Power Services Division and Florida Power and Light's- Protection and Controls Group.

Please bring something for note taking and a list of any questions or particular problems you may have had in the past with large motors or drives. The training will be in two parts, first two hours dedicated to motor theory and second two hours dedicated to Solid State Controllers (i.e. softstarts). Please join us for this very informative session on large motors and controls.



### *IEEE Florida Council will celebrate 30th Anniversary in 2007*

Watch for more information in upcoming Signal's on this outstanding accomplishment

IEEE Florida Council Web Site:  
<http://www.ewh.ieee.org/r3/fc/>



### *FWCS Nominees*

The following are the nominees for offices of the Florida West Coast Section:

Chair – Jim Anderson

Vice-Chair – Tom Blair

Secretary – Jules Joslow

Treasurer – Ralph Painter



## *Jim Howard Receives Prestigious Florida Council Award! IEEE Outstanding Engineer in the State of Florida*

The IEEE Florida Council (comprised of all 12 Florida Sections, representing 9,500 IEEE members) has announced that Jim Howard, long term member of our Florida West Coast Section, has been awarded the prestigious 2006 Outstanding Engineer Award!



Jim Howard is an outstanding engineer with experience in many aspects of electric utility distribution, substation, and transmission engineering. Jim's experience is extensive: Lakeland Electric three and one-half years in T&D Engineering; and Tampa Electric Company almost 24 years, which include seven years in Supervising Reliability Department, five years in Operations, and four years creating Technical Manuals. Jim has a demonstrated ability to apply a broad range of experience and education to drive the success of corporate objectives. Selected areas of expertise include:

- Leadership and Management of high performing teams.
- Development and implementation of new programs to enhance productivity and reliability.
- Analysis for key components for capital investment decisions.
- Experience in linking systems and applications to the business demands in support of long-term goals.
- Creating methods for Protection and Coordination improvements, tracking, and accountability.
- Reliability Tracking, Reporting, and Data Management.

Jim has been a long-time IEEE volunteer, serving as Section Chair, Florida Council Chair, Region 3 Director, and a member or chair of so many committees at all levels of the Institute that it would be impossible to list them all! Let's all congratulate Jim for this accomplishment and award.

—Richard Beattie, P.E.,  
Chair, Awards & Recognition Committee

[Editor's note: Here is Richard on the right with Dev Paul, and Dan Love at one of the Standards writing committee meetings at the IAS meeting



described at the right.]

## *IAS Annual Meeting a Success*

The Recently completed 41st IEEE – IAS Annual Meeting Co-Sponsored by the FWC Section was a success by all counts. The meeting was held at the Tampa Marriott Waterside Hotel. There were six tutorials and 66 Technical sessions. Meeting attendance was 646 persons plus 99 spouses and companions. It was truly an International meeting with attendees from around the world. On Sunday and Monday of the meeting there were over 50 Technical committee and working group meetings held. A large number of prize paper awards were presented at the Awards Luncheon on Tuesday and Several Major awards were presented at the President's Banquet Wednesday evening.

And our three "B's" Richard Beattie, Tom Blair, and Jim Beall were key participants.

Of course see photos below.

—Jim Beall



George Younkun (F) left receiving the Richard Harold Kaufmann Field Award from Robert Lorenz, IEEE Division II Director. The Kaufmann Award sponsored

by the IAS consists of a Certificate, Bronze medal and an Honorarium.

Adam Skorek, IAS Awards Chair (left) and Society



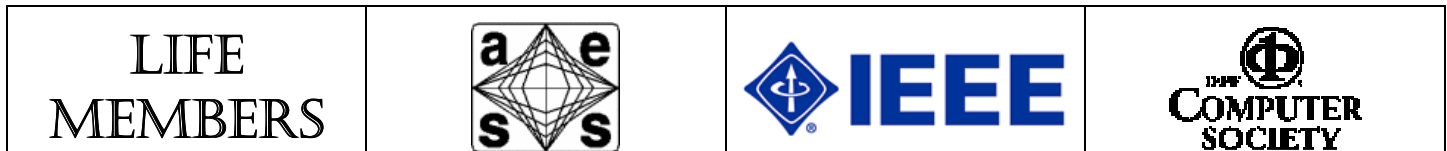
President H. Landis Floyd present the IAS Outstanding Achievement Award to Jacobus Daniel van Wyk, in recognition of

Outstanding Contributions to the Applications of Electricity to Industry.



Peter Magyar (center) receiving the IAS Distinguished Service Award from Adam Skorek, IAS Awards Chair (left) and

H. Landis Floyd, Society President.



December IEEE Chapter Event

## ***Dinner Meeting with Speaker: Professor Matt Basham***

### ***“Maintaining Network Security and Our Freedoms”***

Date/Time: Tuesday December 12, 2006

Social gathering starts at 6:00 PM.

Dinner will be served at 6:45.

Presentation starts at 7:00 PM

Johnny Carino's Italian Restaurant

1102 N. Dale Mabry Highway, Tampa, FL 33607

Please register online at:

<http://time2meet.com/fwcs-meetings/>

**Topic:** The presentation will be: “The Erosion of Substantive Freedoms in cyberlaw development and what researchers can do to return that freedom to science while maintaining the integrity of their network security.” This presentation will discuss the erosion of freedoms when taking the "business" and "academic research" worlds from a physical place into the nether world known as the "virtual world." What you can do in the physical world is now restricted in the virtual world. This lecture will focus upon those developments and how researchers can ensure their privacy and academic freedoms through the use of new technologies.

**The Speaker:** Matt Basham has been a Program Director of Computer Science at Saint Petersburg College for seven years now. Matt is currently finishing his Ph.D. at the University of Florida in Education Administration and Policy with a focus on the integration of technology in education. He holds many computer certifications in Cisco Networking and has published and presented extensively on computer security, technology law, and their implications on researchers and practitioners over the past 7 years.

**Dinner:** A dinner choice of 6 entrees with salad, beverage and desert will be served for a special price of \$10 for IEEE members and \$15 for non members. See the meeting web site for details.

Join IEEE and your meal is free! Email Jim Lumia at [JLumia@ieee.org](mailto:JLumia@ieee.org) for details.

Don't miss this special event with Professor Basham. Please register early at: <http://time2meet.com/fwcs-meetings/>



## ***Work Underway for FWCS Women In Engineering Affinity Chapter***

The FWCS is working with our members to help start a Women In Engineering Affinity Chapter (WIE). The petition is being circulated and signatures are needed to make this a reality for the Section. If you are a member of WIE and would like to help get this Chapter established, please contact one of the individuals listed below: The key members leading the establishment of this Chapter are:



Suzette Presas

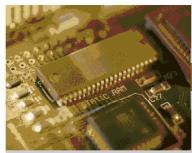


Diana Aristizabal



Bojana Zivanovic

If you are a member of WIE and would like to help get this Chapter established, please contact one of them at: [spresas@mail.usf.edu](mailto:spresas@mail.usf.edu), [daristiz@eng.usf.edu](mailto:daristiz@eng.usf.edu), [bzivanov@eng.usf.edu](mailto:bzivanov@eng.usf.edu)



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## ***How Come Engineers Don't Have A Cool Uniform?***

Ah, the joy of Career Day! I'm the proud dad of two kids who are in grade school (kindergarten and 3<sup>rd</sup> grade). This is the time of year that the local schools send a note home with the kids asking parents to come to school and explain to the kids just what they do. I'm assuming that the purpose of this is to motivate the little folks into staying in school. Clearly this is no time to be telling kids about cube life, the joys of having to remember multiple passwords, nor exactly what "budgetary cutbacks" really mean. Instead it's my once-a-year chance to attempt to be the coolest dad in the whole school.

Engineering is a great profession. However, we do have a few strikes against us – Career Day exposes our profession's weaknesses. I can't tell you just what a blow it was when I showed up for a Career Day a few years ago full of engineering excitement only to come face-to-face with: the policeman, the fireman, and the soldier. They have cool uniforms. They have cool utility belts. They have very

## ***USF Student Activities***

The USF IEEE Student Branch has been rejuvenated. Just look at what is happening now and next semester:

This semester:

Provided student tutoring in engineering software use

Stimulated the formation of the robotic team for competition at SECON'07 and is now helping look for money.

Tampa Armature Works tour with Dr. Fehr

Designed and arranged for printing of new IEEE/USF T-shirts. They look great and if you want one contact Kosol Son at his email: [kson@mail.usf.edu](mailto:kson@mail.usf.edu).

Held a pizza sale and sold water at Buc's games as fundraisers.

Presented a Mini S-Pac on November 30<sup>th</sup> at the University

Will host the Senior Banquet on December 8th

Next semester they will have events such as

Present a full S-PAC

Participate in Engineering Expo; current questions: What are we going to have for the expo this semester? Laser? We need to contact the vendor to lend one to us or we need sources of funds to purchase our own.

Compete in Electrathon: Electric Car race with the other engineering societies.

Attend Southeast Conf 2007

Hold more general meetings as well as Fundraisers, Social events, Spring Picnic, and the ever-successful Spring Senior Banquet

cool tools. I had a sport coat, a belt to hold my pants up, and no tools whatsoever. The next year I came prepared: I had my box of science experiments that would show off a whole range of cool engineering stuff. However, the other dads had come prepared also: this time they brought their cool vehicles: the police car, the tow truck, and the 18-wheeler. I had, of course, brought only my Honda Accord.

I have eventually solved this problem. Reaching into my marketing bag of tricks I now give the same presentation trying to show different types of engineering. However, now in the end I finish up by handing out free giveaways. One year it was flashlights to show how electricity works. In the end it's what you leave behind that makes the biggest impression. Perhaps someday in the future a young engineer will come up to me and thank me for the flashlight and showing her just how cool engineering can be!

—Jim Anderson





***Eighth Annual WAMICON***  
***IEEE WIRELESS AND MICROWAVE TECHNOLOGY***  
***An IEEE/Industry/Government/Education Conference***  
***December 4 and 5, 2006***

The conference will address up-to-date multidisciplinary research needs and interdisciplinary aspects of wireless and RF technology. The program includes oral presentations, poster presentations, and tutorials. (To register or for more info visit <http://wamicon.eng.usf.edu/> )

**Keynote Speaker:** Dr. Kumar Balachandran, Ericsson Research, RTP, NC, USA will present a talk tentatively entitled "Where is the cellular mobile radio going?—Perspectives on 4G."

**Tutorials:** On December 4 there are four tutorials planned; admission is included with the general registration. Presenters will include:

- Dr. Ed Callaway, Motorola Labs, "Wireless Sensor Networks"
- Dr. Tom Willis of AT&T Labs, "WiMax Technology"

**Topics of interest include (but are not limited to):**

- Next Generation (3G/4G) wireless communication systems
- 802.11/HiperLAN2 Wireless LAN Systems (OFDM and multi-carrier)
- 802.16/WiMax Wireless Metropolitan Area Networks and related technologies
- Spread spectrum wireless systems
- Communications in disaster/emergency/rescue
- Smart antennas, adaptive antenna arrays, MIMO, and space-time processing
- Cognitive radio, Software Radio, and Emerging Technologies
- Ultrawideband (UWB) Communication: Applications, system and RF issues

**Invited Talks:** Among the planned invited papers at this year's conference will be:

- Achievements of European Research Cooperation on Microwave Amplifiers in the TARGET Network (G. Magerl and T. J. Brazil)
- Volterra-Based Behavioral Modeling of Power."
- Wireless Sensors Networks and Ad Hoc Networks
- Telemetry and telemedicine application of wireless devices and systems
- Advanced propagation modeling and sounding of communication channels
- Cross-layer designs, integration of the physical layer technologies with other layers
- System Architecture, Integration, and Convergence Issues
- System Level Design, Modeling, and Simulation
- RF channel characterization and modeling

Again, to register or for more info visit <http://wamicon.eng.usf.edu/> )



***2007 Power Engineering Society General Meeting***

June 24-28, 2007 Marriott Hotel and Tampa Convention Center

The Local Organizing Committee (LOC) for this meeting is working hard to make sure this is another outstanding Conference hosted by the Section and its Chapters. The Committee is seeking volunteers to assist with this meeting, please contact one of the following Committee members if you would like to help with this conference.

Chair – Jim Howard ([j.howard@ieee.org](mailto:j.howard@ieee.org))

Vice-Chair – Jim Beall ([j.beall@ieee.org](mailto:j.beall@ieee.org))

Secretary – Donna Howard ([dhoward@frcc.com](mailto:dhoward@frcc.com))

Treasurer– Ralph Painter ([rdpainter@tecoenergy.com](mailto:rdpainter@tecoenergy.com))

Technical Committee Liaison – Tom Blair ([thblair@tecoenergy.com](mailto:thblair@tecoenergy.com))

Technical Tours – Randy Dotson

([randy.dotson@lakelandelectric.com](mailto:randy.dotson@lakelandelectric.com))

Companions Program – Donna Howard ([dhoward@frcc.com](mailto:dhoward@frcc.com))

For more information on this outstanding conference, please visit our web site at: <http://ewh.ieee.org/r3/floridawc/pesias/>



## IEEE C37.96-2000 IEEE Guide for AC Motor Protection

### Speakers:

**Albert N. Darlington, P.E.**, Consultant,  
DEDA Industries & Adjunct Professor –  
Electric Systems & Power System Protection,  
University of South Florida;

**Thomas Blair, P.E.** Consulting Engineer,  
Tampa Electric Company

**Date:** Friday, January 26, 2007

**Time:** Registration & Breakfast: 8:00AM – 8:45AM  
Seminar - 9:00AM – 3:00PM

**Location:** Seminole Electric, 16313 North Dale Mabry  
Hwy, Tampa, FL 33618

**Cost:** \$125 Members, \$200 Non-Members,  
\$50 Students Includes Breakfast, Lunch, &  
seminar text, "IEEE C37.96 – 2000 IEEE  
Guide for AC Motor Protection" (a \$40 value)

**PDH Credits:** 4 professional development hours will be awarded. Be sure to enter your name and PE number on the signup website as it appears on your license. Florida exempt provider #00015.

**RSVP:** Online at: <http://time2meet.com/fwcs-meetings/> Make checks payable to: IEEE FWCS Send checks to: Ralph Painter, IEEE FWCS Treasurer 648 Timber Pond Drive, Brandon, FL 33510-2937

Space limited to the first 50 registrants!!!

**Questions:** Tom Blair at 813-228-1111, ext 34407 or [thblair@tecoenergy.com](mailto:thblair@tecoenergy.com)

### Seminar Text

IEEE Std C37.96-2000  
Revision of IEEE Std C37.96-1980

#### IEEE Guide for AC Motor Protection

Sponsor  
Power System Relaying Committee  
of the  
IEEE Power Engineering Society

Approved 30 March 2000  
IEEE-SA Standards Board

Abstract: Generally accepted methods of protection for ac motors are provided. This guide identifies and summarizes the functions necessary for adequate protection of motors based on type, size, and application. This guide does not purport to detail the protective requirements of all motors in every situation.

Keywords: ac motor protection, adjustable-speed drive motor protection, induction motor protection, microprocessor-based motor protection, motor, rotating machinery protection, synchronous motor protection, wound rotor motor protection

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3 Park Avenue, New York, NY 10016-5987, USA  
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All rights reserved. Published 12 September 2000. Printed in the United States of America.  
Print ISBN 0-7381-3493-6 (hardcover)  
PDF ISBN 0-7381-3493-6 (hardcover)

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### A \$40 Value

**Your local IEEE PES/IAS Chapter is offering this 4 hour seminar on IEEE C37.96-2000, IEEE Guide for AC Motor Protection by Albert N. Darlington, P.E.**

This IEEE Standards product is part of the C37 family on Switchgear, Substations and Protective Relays. Guidance in applying relay protection to squirrel-cage and wound-rotor induction motors and synchronous motors is provided. The generally accepted forms of motor protection will be reviewed, and the use of relays and devices, singly and in combination, will be summarized so that the user can select the necessary equipment to obtain adequate motor protection. This seminar and IEEE guide will be concerned primarily with the protection of three-phase integral horsepower motors and variable-speed motors where specifically indicated. The recommendations are of a general nature, designed to cover the usual or typical motor installations. A copy of IEEE C37.96 will be included in the price of the seminar.

Mr. Darlington is a member of the AC motor protection working group that developed 2000 revision to IEEE C37.96. He has worked in the utility industry over his career and has taught relaying classes at the University of South Florida.

Tom Blair was a balloting member for IEEE C37.96-2000.



## Career Webinars

The IEEE-USA Employment and Career Services Committee has launched a Webinar series that will assist you in finding your next job, maintaining your career, negotiating an appropriate salary, and understanding ethical considerations in the workplace. The third in the series starts in December. They are all at 12 noon ET.

Webinar 3: Finding a Job that Fits My Skills and Interests  
6 Dec. 2006

Webinar 4: It's Time for the Interview 13 Dec. 2006,

Webinar 5: Professional Ethics — Dominant and Escalating Effects on Employment 19 Dec. 2006



## Brain Teaser Challenge Column

—By Butch Shadwell

**November BTC** Last month, for Christmas, I pondered "...getting a new pen with a roller ball tip that is 1 mm in diameter. I can adjust the thickness of the line it draws by how hard I push down on the tip. Assuming the paper wraps around the tip smoothly as the tip pushes into it, how wide is the line if I press down 0.1 mm? How wide is it at 0.2 mm depth?"

Maybe it is just too early to start thinking about Christmas. About half of the answers I received were very close, but not correct. It seems many of you missed the part where I stated that the paper would wrap around the ball as the pen presses down. When the pen is raised the ink would have transferred to a line equal in width to the length of the arch in contact with the paper. Some folks calculated the length of the cord, which is a little shorter.

The way I approached the problem was to imagine that two right triangles were formed (back to back) from the center of the ball (or circle in 2D) to the points where the paper and ball separated. In the first case the angle of the contact arch is equal to  $2 * \arccos((.5-.1)/.5)$ . This comes to 1.287rad. To get the length of the arch you multiple the angle in radians times the radius (.5 mm), which gives us 0.644 mm for the line width. In the next case we get 0.927 mm. But I bet you already knew that.

**December BTC** I've been going to a lot of funerals lately. At many of them I did not know the deceased. A lot of people dressed in dark clothes, not quite sure what to do or say. Often you can tell which ones may not have parted with this loved one on the best of terms. But, I think the really weird thing about funerals is that everyone there really has their own idea about what has happened, or is going to happen to the "spirit" of the person being planted in the ground. From my experience, regardless of their choice of religion (or not), people tend to come up with their own unique ideas for the disposition of the dead. I suspect that their ideas more reflect the broad spectrum of human uncertainties and insecurities, rather than the catechism of a church or other belief system.

Maybe it would help things if each of us took time now to write down what we think is going to happen to us and have it read at our funeral, so that others may wish us well on that journey rather than the one they would imagine for themselves. I guess this wouldn't really help. Since folks tend to think they are right and that others are wrong about such things, the atmosphere of the funeral might be marred with the thoughts that the deceased was not only dead but also badly deluded in his or her description of the afterlife.

The preceding paragraphs aren't that funny I suppose, but sometimes I like to go for "thought provoking". So let's say your lung capacity is 1 liter, and with every breath you remove 20% of the oxygen in that air. Your body occupies a volume of 30 liters. Then you get trapped in an airtight

## STATE SCIENCE & ENGINEERING FAIR CALL FOR JUDGES – HELP!

The 2007 State Science & Engineering Fair will be held next year, (April 11-13, 2007) at the Florida Gulf Coast University in Ft. Myers, FL. Judges are desperately needed for April 12<sup>th</sup>, the day the student projects are reviewed. This involves spending the day talking to and interviewing the students about their projects and rating them. Breakfast and lunch will be provided for all judges. Anyone who has kids that have benefited from the past science and engineering fairs well know how important this activity can be. Those who have kids in grades 9 – 12 can help theirs by becoming a judge and learning what it takes to present a winning project.

When the SSEF is held at locations like Orlando they can get 400 judges. In locations like Ft. Myers they are lucky to have 200 judges. The organizers are asking for help from the IEEE Florida Council, and particularly the Florida West Coast Section to get judges to volunteer. Many IEEE members have spouses that hold science degrees that could also be judges. Information and details for becoming an SSEF judge will be posted on the SSEF website in December, at [www.floridassef.net](http://www.floridassef.net). Lets all support our future engineers and scientists by volunteering to judge! Please visit the following web sites and consider participating as a judge for the years fair:

<http://www.floridassef.net/JUDGING.htm>

<http://www.floridassef.net/forms/2006forms/2006pdffiles/JudgeResponseCard.pdf>

Please also let Karl Lohman, Awards Chair for the Florida Council and Richard Beatie, Awards Chair for the Florida West Coast Section, know of your plans to judge.

Karl Lohman – [k.l.lohman@att.net](mailto:k.l.lohman@att.net)

Richard Beatie – [r.beatie@ieee.org](mailto:r.beatie@ieee.org)

—Richard Beatie, P.E.,  
Chair, Awards & Recognition Committee



box that is 70 cm by 220 cm by 50 cm inside. How many breaths will it take you to consume 50% of the available oxygen in the box, just before you pass out? Assume that when you breathe out the gas in the box is immediately homogenous again before you breathe in, so the air starts 100% oxygenated and then it is reduced with each breath. Also we will ignore the biological effects of the rising CO2 levels. This sounds pretty hard. I hope I can get it right.

Reply to Butch Shadwell at [b.shadwell@ieee.org](mailto:b.shadwell@ieee.org) (email), 904-223-4510 (fax), 904-223-4465 (v), 3308 Queen Palm Dr., Jacksonville, FL 32250-2328

**Dec. 2006 Calendar of Events (For more information see P. 1 *Inside this Signal...*)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26	27	28	29	30	1	2
3	4 <i>WAMICON</i> 2 days-12/4,5 p. 7	5 <i>5:30 pm:</i> <i>IEEE FWCS</i> <i>ExCom TECO</i> <i>Tampa</i>	6	7 <i>8 am: Motor</i> <i>Theory</i> <i>Seminar</i> <i>Riverview, FL</i> <i>p. 1</i>	8 <i>7 pm: IEEE</i> <i>USF Sr.</i> <i>Banquet</i> <i>Tampa p. 6</i>	9
10	11	12 <i>6 pm:</i> <i>Network</i> <i>Security</i> <i>Tampa p. 5</i>	13	14	15 <i>Chanukah</i> <i>Begins</i>	
17	18	19	20	21	22	23
	25 <i>Merry</i> <i>Christmas!</i>	26 <i>Kwanzaa</i> <i>Begins</i>		28	29	30

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*IEEE/PES General Meeting, June, 2007 Tampa!*  
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