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SIGNAL

THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

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

Volume 46 - No. 9

September 2003

Designing & Specifying Parallel Power Systems Seminar for Consulting Engineers

Presented by Generac Power Systems and the Milwaukee School of Engineering
Marriott Courtyard Hotel, 10152 Palm River Rd, Brandon



Date/Time: Wednesday, September 24, 2003. Seminar – 8:30 AM – 5:00 PM

Registration: Registration and Continental Breakfast 8:00 AM – 8:30 AM
Pre-registration is mandatory.
Register at <http://www.weiquality.com/fwcs-meetings/>

Cost: Members - \$150, Non-members - \$200, lunch is included



For additional information, contact Diane Kelly 813-948-8490 or dianekelly@zabatt.com

For registered professional engineers, 8 professional development hours will be awarded for completion of this seminar.
IEEE Florida Provider Number EXP00015

Generac Power Systems and the Milwaukee School of Engineering have created a one-day seminar specifically for practicing professional engineers who wish to expand their understanding of current technology and available options. They are oriented toward design and consulting engineers and end users who are involved in supplying or supporting standby power systems in commercial, industrial, residential, and health care facilities.

Standby power systems are increasingly in demand for a variety of projects. Historically, many of these projects have been implemented utilizing single engine solutions. However, recent advances in multi-function digital control technology have made multiple generator systems a viable alternative. In order to specify and select the proper equipment for these systems, engineers need a good working knowledge of key aspects of paralleled generation.

The purpose of the course is to provide practicing engineers with an overview of generator switching and paralleling applications as it relates to facility requirements for standby power.

Topics include:

- **Generator Switching Technology**
- **Neutral Switching & Ground Fault Indication**
- **Parallel Generation Concepts**
- **Implementation Of Parallel Generation**
- **Advances In Parallel Generation**



**2003 IEEE EXECUTIVE COMMITTEE
FLORIDA WEST COAST SECTION**

CHAIRMAN: John Conrad
Windsor Inc. (813) 926-4004
john.conrad@ieee.org

VICE CHAIRMAN: Arthur L. Nordlinger, PE
813-508-2952
a.nordlinger@ieee.org

SECRETARY: Jules Joslow
ElectroMark, Inc. (800) 274-2383
jjoslowemi@aol.com

TREASURER: Ralph Painter
Tampa Electric Co. (813) 641-5224
rdpainter@ieee.org

SIGNAL EDITOR: Quang Tang
Seminole Electric (813) 739-1222
q.tang@ieee.org

AWARDS: Richard Beatie, PE
r.beatie@ieee.org

BYLAWS: Richard Beatie, PE
Consultant 813-289-0252
r.beatie@ieee.org

EDUCATION: Dr. Rudolf E. Henning and Zhen Tong
(813) 974-4782 or (727) 523-1336
henning@eng.usf.edu or zhen@tampabay.rr.com

PACE: Scott Haynes and Richard Martino
Consultants (813) 994-3011 or (727)536-1776
wshaynes@ieee.org or
richard@richardmartino.com

MEMBERSHIP: Rosemary Dakos
Consultant (813-792-2215
rdakos@tampabay.rr.com

STUDENT BRANCH CO-ADVISORS:
Dr. Paris Wiley, USF (813) 974-4743
wiley@eng.usf.edu

STUDENT BRANCH MENTOR: Jim Howard
Lakeland Electric (813) 876-1748
j.howard@ieee.org

STUDENT BRANCH CHAPTERS: Angela Alexander
(813) 974-4776
aalexand@eng.usf.edu

PES/IAS CHAPTER: Arthur L. Nordlinger, PE
813-508-2952
a.nordlinger@ieee.org

MTT/AP/ED CHAPTER: Shawn K O'Brien
Raytheon Systems Co.
shawn_k_obrien@ieee.org

COMP/AESS CHAPTER: James S. Lumia
(813) 832-3501
jlumia@ieee.org

SP/COMM CHAPTER: Bror W. Peterson
Raytheon Systems Co. (727) 302-4710
Bror_W_Peterson@raytheon.com

LIFE MEMBER CHAPTER: Jules Joslow
ElectroMark, Inc. (800) 274-2383
jjoslowemi@aol.com

GOLD: Dennis Trask d.trask@ieee.org

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

WEB MASTER: Jim Anderson
jim.anderson@ieee.org

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All material for THE SUNCOAST SIGNAL is due by the Friday following the 1st Thursday of the month preceding the issue month. Address all correspondence to:

Quang Tang - Seminole Electric Cooperative, Inc.
P.O. Box 272000, Tampa, Florida 33688-2000
Voice: (813) 739-1222 Fax: (813) 264-7906
E-MAIL: q.tang@ieee.org
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Chair's Comments

By John Conrad

We are coming out of the summer break when things typically slow down. However, your own IEEE section has hardly taken a breather though with two or three meetings each month over this period. I believe that technical meetings are one the major benefits of being a member of IEEE. They give you networking opportunities, opportunities to visit local companies and the ability to keep you in touch with the current trends. The more meetings the better as far as I am concerned. (I hasten to add that I mean technical, networking meetings rather than organizational committee meetings which you can definitely overdo!!)

We are expanding the number of opportunities by reaching out to other local engineering societies. In September we are holding joint meetings with two of them. We are giving our members a second opportunity to visit the Desalination Facility by joining with ASME, the American Society of Mechanical Engineers. We are also holding a joint meeting with INCOSE, the International Council for Systems Engineering. See elsewhere in this issue for details of these two meetings.

We will continue to build on these relationships and develop new ones so that members of all societies can expand their horizons. If you have ideas for joint ventures or suggestions for organizations to contact just send an e-mail to me at john.conrad@ieee.org.

Coming up in October! Navy SEAL Briefing to IEEE Florida West Coast Section

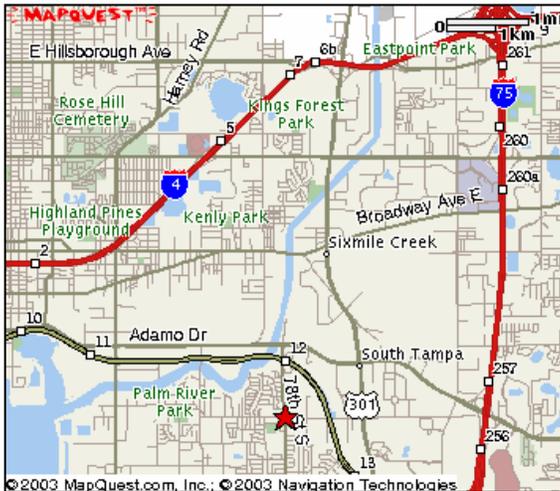
On the evening of October 15, 2003 Commander Jay Washabaugh is coming to TECO Hall to give us a briefing on his experiences as a Navy SEAL. Commander Washabaugh has served for many years, around the world in such places as Perl Harbor, the Persian Gulf, Korea, the Philippines and is currently assigned to MacDill AFB where he is responsible for the acquisition of the ASDS, Advanced SEAL Delivery System. ASDS is a manned combatant mini-submarine capable of delivering SEAL personnel and their equipment stealthily in a high threat environment. The host submarine transports the vehicle to the mission area where the ASDS leaves its host and delivers the SEALs to their specific mission site and later returns with them to the host

The second part of the Commander's presentation will address US Special Operations Command's role in Operation Iraqi Freedom. USSOCOM is based at here at MacDill.

Mark your calendars and look for further details of this unique opportunity in next month's Signal or call John Conrad (813) 926-4004.

Advanced Concepts in Transformer Protection Seminar

Presented by your PES/IAS Chapter and Beckwith Electric



Date/Time: Thursday, October 9, 2003; Seminar: 8:30 – 5:00
Location: Tampa Electric Skills Training Center, Room 27
Palm River Road and 78th Street, Tampa (see map)
Enter at guard gate on 78th Street
Registration: Registration and Continental Breakfast: 8:00 AM
Pre-registration is required. Register online
<http://www.weiquality.com/fwcs-meetings/>
Limited to 40 participants
Cost: Members \$50, non-members \$100,
Student members \$20

Any questions, please contact Art Nordlinger at a.nordlinger@ieee.org.

Professional Development Hours: 8 professional development hours will be awarded for completion of the seminar.
Florida Provider IEEE, Provider Number EXP 00015

Topics Include:

- Fundamentals
- Protection Overview
- Calculations
- Protective Systems Application
- Commissioning and Fault Investigation Examples
- ...and much more!



Learn what you need to know to:

- Increase asset life
- Decrease substation project costs
- Improve commissioning and troubleshooting procedures
- Increase security and dependability of your transformer protection scheme

Life Member Chapter Meeting Notice

Mark Nov. 13, 2003 on your calendar of important coming events. The next meeting of the Life Member Chapter will take place at 11:30 AM at the Mote Marine Lab. in Sarasota. The program will feature a guided tour of the Aquarium, Mammal Center, and Research Labs. As usual a gourmet lunch will be available. After the tour you will be free to visit all the exhibits at your leisure. Watch the October issue of the SIGNAL for more details and reservation instructions.

*Joint Meeting: IEEE Comp/AESS Chapter and INCOSE** *From Function Driven Systems Engineering* *to Object Oriented Software Engineering*

Dr. Peter Hoffmann, I-Logix

Date/Time: Tuesday, September 9, 2003 at 12 Noon to 1:00 PM

Location: Raytheon St. Petersburg Building D Auditorium
NW corner of 22nd Ave & 72 St N, St. Petersburg, FL

Food: Bring your own lunch.

Abstract:

Establishing a seamless flow from "concept to code" to meet the ever-increasing competitive challenges of designing and developing large, complex systems is akin to the Holy Grail. Attempts to achieve this by imposing a single methodology for both the systems component and the software component - though logical from a theoretical point of view - has consistently made one group or the other unhappy. This presentation describes a model-based system and software development process that combines both function-driven systems engineering and object oriented software engineering. The key part of this "Integrated Process" is the "Bridge" between the two paradigms.

Biography:

Dr. Peter Hoffmann has over twenty years of experience in all phases of aerospace/defense and automotive systems development. A respected specialist in real-time systems design, Dr. Hoffmann is responsible for delivering senior-level consulting, mentoring, and training to embedded systems developers. Clients include Alenia, BAe, Boeing, DaimlerChrysler Aerospace (DASA), Eurocopter, General Dynamics, GIAT, JPL, Lockheed Martin, NASA and SAAB.

Reservations:

Please make your reservations on-line at www.weiquality.com/fwcs-meetings or call Wes Calhoun at Wes_Calhoun@raytheon.com or (727) 302-7876. You must specify if you are a US citizen. Non-US citizens should bring a passport or other official ID.

Directions:

From Tampa, take I-275 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 (22nd Ave. N.). Turn west on 22nd Ave. past Tyrone Mall to 72nd Street N. Turn right at the traffic light then first left to Building D. Park in the lot south of the building, toward 22nd Street.

* **INCOSE**, the International Council on Systems Engineering, fosters the definition, understanding, and practice of World Class Systems Engineering in industry, academia, and government. It is a not-for-profit membership organization that has been rapidly growing since it was founded in 1990. For more information on INCOSE visit their website at www.incose.org or contact Wes Calhoun at Wes_Calhoun@raytheon.com or (727) 302-7876



Joint Meeting: IEEE Section and ASME Tour of the Tampa Bay Water Desalination Plant

- Date:** Wednesday, September 10, 2003
- Time:** First tour leaves at 6:00pm with additional tours every 30 minutes
- Tour Location:** Desalination Plant, 13041 Wyandotte Road
Apollo Beach, FL 33534
- Dinner Location:** Alpha Restaurant, 1312 Apollo Beach Blvd., Apollo Beach, FL
Your paid attendance will also include dinner after the tour
- Menu:** Your choice of Chicken Parmesan w/Spaghetti, Stuffed Shells, or Lasagna. Each meal comes with your choice of coffee, tea, or soft drink and cheesecake for desert. There will also be a cash bar.
- Price:** Members and guests \$15.00 per person, Student Members \$8.00
Price includes tax and gratuity

Description:

A few weeks ago IEEE put on a lunch-time tour of this facility. The tour was very popular so we have joined with ASME, American Society of Mechanical Engineers, to give our members another chance to see this remarkable facility. Join ASME as we tour the nations largest seawater desalination plant right here in Apollo Beach, Florida. You heard about it in the news; read about it in the paper; now it's time to see first hand how this facility overcame its critics to become one of 13,600 similar facilities in the world producing over 6.8 billion gallons of drinking water daily. This particular facility is publicly owned by Tampa Bay Water, privately operated by Covanta, and will ultimately provide 25 million gallons per day, or roughly 10%, of the 250 million gallons of potable water used by the Tampa Bay area every day.

The facility plant manager, Ms. Lynn Stevens, will be our tour guide for this exciting start to the new program year. She'll explain the process behind reverse osmosis, and dispel many of the myths associated with this method of creating drinking water. You won't want to miss this "behind the scenes" look at our most precious commodity: water!

Your paid attendance will also include dinner after the tour at the Alpha Restaurant, a local favorite for pizza, pasta and prime rib. Nick and his crew have promised us the best Apollo Beach has to offer, so don't miss out!

Reservations: Please make your reservations on-line at www.weiquality.com/fwcs-meetings or call John Conrad at (813) 926-4004. Reservations and cancellations are required by noon on Monday, Sept 8, 2003. All attendees must be U.S. citizens, or have a valid passport. Parking is limited, so please carpool if possible. Make your checks payable to IEEE-FWCS and mail to John Conrad, 19824 Wyndham Lakes Drive, Odessa, FL 33556.

Directions: Take Interstate 75 south from Tampa, exit Big Bend Road (Exit 246) and head west. You will cross US 41 (Tamiami Trail) and turn right on Wyandotte Road. The Desalination plant will be just past the power plant on the left-hand side.



Student Branch, FWCS Section, and PES/IAS Chapter Welcome Back Cookout

- Date/Time: Saturday, September 20, 2003, 11:00 AM – 4:00PM
- Location: USF Riverfront Park, (East of USF at the river on Fletcher Ave)
- Cost: No Cost, but Reservations are required (Need this to determine food amounts)
- Reservations: On-line at <http://www.weiquality.com/fwcs-meetings> or Call USF Student Branch Office at (813)974-4776 or email nguyentu@eng.usf.edu

The IEEE Florida West Coast Section, in conjunction with the Power Engineering and Industry Applications Chapter, are hosting a Welcome Back Cookout for the IEEE Student Branch. Bring the family and come join us as we welcome the Students back from their Summer break. Hot Dogs, Hamburgers, chips, corn dogs, potato salad, baked beans, watermelon and other types of food, along with plenty of drinks will be waiting for you!!

Entertainment: Canoe Trips (small cost to rent canoes), playground for the kids, horse shoes and volley ball

The IEEE Section, PE/IA Chapter, and the USF Student Branch look forward to seeing you at this wonderful outing. Be sure to register on line and plan to attend this outstanding get together.



Students Corner

By Carlomagno B. Dionson

The summer is about to turn into autumn. The hot summer days will be replaced with winter chills. The long walks on the beach will be cut short. Along with these changes, the student branch of IEEE will also try to implement some new things. Out with the old and in with the new, as some would say.

The first thing on the agenda is the planning of an upcoming SPAC event. For those of you who are not familiar with it, SPAC stands for Student Professional Awareness Conference and it is geared towards providing information for students about their expectations when they graduate and start working in the real world. This will be the student branch's biggest event for this year, and I'm glad to say that we are busy planning for it.

Second on the list is a program implemented by our SPAC coordinator, Be Nguyen-Tucker, provides students an on-the-job training as part of their class curriculum. This is a win-win situation for both parties. The student will get the real world experience that they need and the employer will get a semester's worth of free help.

In addition, this program has already been approved by USF's Electrical Engineering Department thanks in part to Dr. Paris Wiley, the Associate Chair. We are currently seeking more companies that would like to get involved. If you or someone you know would like to offer a student real world training, then please contact Be Nguyen-Tucker at (813) 376-6176 or email at bemotg@hotmail.com.

Lastly, we are planning on providing student seminars every two weeks in an effort to increase their knowledge and exposure to business contracts / processes, software / hardware tools, etc. It is like a smaller version of the SPAC. We are just waiting for our student surveys to come back to us before we can finalize the details. We are looking for volunteers to do workshop on the weekend, either on Saturday and Sunday. Once again, if anyone is willing to help out with these seminars, please contact Be or the local student branch president, Angela Alexander, at aalexand@eng.usf.edu.

**Beckwith Electric Relay Seminar
October 26-30, 2003
Radisson Hotel, St. Petersburg, FL**

Beckwith Electric's annual Relay Seminar will be held October 26-30, 2003 in St. Petersburg, Florida. This seminar includes four days of intensive training and instruction in generator, power plant transformer, and DG interconnection protection.

Topics include:

- Fundamentals of Generator and Power Plant Protection
- Protection of Generators
- Protection of Transformer and DG Interconnections
- Current State of DG Rules and Regulations, IEEE P1547, California Rule 21 and State Guidelines in Texas and New York
- Application and Setting of the Beckwith Electric relays for generator, transformer and DG protection
- Commissioning and Testing of the Beckwith Electric relays

Who Should Attend?

Utility engineers, consultants (especially those involved in DG design), equipment/control design engineers, generator set manufacturers and packagers, as well as others who specify and develop settings for the electrical protection of generators and transformers. This seminar will provide the background information necessary to understand the complex subject of generator, power plant transformer and DG interconnection protection—even for those with a limited knowledge of protective relaying.

Instructors

Wayne Hartmann, Manager of Application Engineering, Protection and Protection Systems for Beckwith Electric.

Dr. Murty V.V.S. Yalla, Vice President of Research and Development/Engineering for Beckwith Electric.

Charles Mozina, consultant for Beckwith Electric specializing in protection products and systems.

Dr. Juan M. Gers, consultant specializing in studies, designs and commissioning of electric projects.

SEMINAR FEE: \$775

which includes course materials, lunches, morning and afternoon breaks, two dinners and the Sunday evening welcome reception. Seminar to be held at the Radisson Hotel.

Registration deadline is Friday, September 26, 2003.

Hotel Accommodations:

Radisson Hotel-St. Petersburg
12600 Roosevelt Boulevard
St. Petersburg, FL 33716
Phone: 727-572-7800 or 1-800-333-3333
Fax: 727-572-5700

Room Rate:

\$109.00 for single or double rooms. (Mention Beckwith Electric to receive special room rate.)

Registration:

Name: _____

Organization: _____

Address: _____

City: _____

State: _____

Zip: _____

Daytime phone #: _____

Fax #: _____

E-mail: _____

Payment:

Check (payable to Beckwith Electric Co., Inc.)

Purchase Order # _____

Charge: Visa

MasterCard

Card # _____

Cardholder's Name _____

Signature _____

Completed registration form can be faxed to 727-546-0121.

For Additional Information:

Contact Linda Caporaso at (727) 544-2326 or e-mail at lcaporaso@beckwithelectric.com

You may also download a copy of the Relay Seminar brochure at www.beckwithelectric.com

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January 15 9:30am - 3pm



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IEEE SoutheastCon 2004

March 26 - 28, 2004

Greensboro Downtown Marriott
Greensboro, North Carolina

<http://www.ewh.ieee.org/cmte/secon04/>

CALL FOR PAPERS

SoutheastCon is the annual IEEE Region 3 Technical, Professional, and Student Conference. It brings together Electrical, and Computer Engineering professionals, faculty and students to share the latest information through technical sessions, tutorials, and exhibits. It is the most influential conference in Region 3 for promoting awareness of the technical contributions made by our profession to the advancement of engineering science and to the community. Attendance and technical program participation from areas outside IEEE Region 3 are also encouraged and welcomed.

The theme of the conference is “**Engineering Connects**”. SoutheastCon 2004 includes: Technical Sessions; Plenary Sessions; Tutorials and Workshops; Student Competitions; Industrial Exhibits; IEEE Professional Training; and Social Events. It is co-hosted by: IEEE Region 3, IEEE Central North Carolina Section, North Carolina A&T State University and the University of North Carolina at Greensboro.

The SoutheastCon 2004 Program Committee invites prospective authors to submit original papers on all aspects of electrical and computer engineering of current interest. Papers must not have been published or presented elsewhere. Both full-length refereed papers and abstracts of unrefereed papers are solicited. Proposals are also invited for tutorials and workshops. Appropriate topics for papers, tutorials, and workshops at SoutheastCon 2004 cover all aspects of electrical, computer, and communications engineering and may include, but are not limited to:

Aerospace Systems	Electromagnetics	Power Systems
Algorithms	Electron Devices	Professional Activities
Analog Systems	EMC/EMI	Radar Systems
Antennas	Engineering Education	Recognition Systems
Artificial Intelligence	Expert Systems	Reliability
Bioinformatics	Fiber Optics	Remote Sensing
Biomedical Engineering	Fuzzy Systems	Robotics
Broadband	Industrial Electronics	Security
Broadcasting	Information Technology	Sensors and Transducers
Cellular Communications	Integrated Circuits	Signal Processing
Circuits and Systems	Lasers	Software Development
Communication Systems	Maintainability	Software Engineering
Computer Networking	Microelectronics	Solid State Devices
Computer Networks	Microprocessors	Spread Spectrum
Computer Systems	Microwave Engineering	System Theory
Consumer Electronics	Mobile Systems	Telecommunications
Control Systems	Modeling and Simulation	Telemedicine
Control Systems	Multi-Agent Systems	Telemetry
Design Automation	Multimedia	Ubiquitous Computing
Development/Digital Divide	Network Theory	Ultrasonics
Digital Systems	Neural Networks	Vehicular Technology
Distance Education	Optical Computing	Virtual Reality
Distributed Systems	Pattern Recognition	Wave Propagation
Electrical Machinery	Photonics	Wireless Communications
Electrical Materials	Power Electronics	

General Instructions

All submissions must include title, author(s), author's affiliation, address (postal and e-mail) and telephone number of the correspondence author, and key words. Potential authors are encouraged to submit their initial paper, abstract, or tutorial/workshop proposal in electronic form (in MS Word format) to SEcon2004@ncat.edu by the submission deadlines. Each paper must have an author that is registered to attend the conference.

Electronic submission is preferred. Otherwise, send printed copies of the paper, abstract, or proposal to the Technical Program Committee at the conference address below. Final submission of all papers, tutorials, and workshops, including all presentation materials and handouts, is required in electronic form by the "Camera-ready" deadline. MS Word and/or MS PowerPoint file formats are required.

Text should be formatted for 8.5 in. x 11 in. (US Letter) paper. Page margins are 0.62 in. left and right, 0.5 in. top and 1.0 in. bottom. The title should be centered in 18-point type 1.0 in. from the top of the first page. The author(s) names and organizational affiliation should be in 12-point type, 2 lines below the title. This is followed by the text of the paper in 2-column format, with 10-point Times New Roman font. Column widths are 3.5 in. with a 0.25 in. gutter. Use no headers, footers, or page numbers; the proceedings editor will add these.

Full formatting details, copyright and release forms will be made available to authors once the submission is accepted.

Full Length Refereed Papers

The completed paper must be submitted in the required format by December 19, 2003. All papers will be refereed and authors will be notified of acceptance/rejection by January 9, 2004. An electronic copy of the final camera-ready paper (in MS Word), presentation slides (in MS PowerPoint), and completed copyright and presentation materials release forms (paper copies with original signature) for accepted papers will be due January 30, 2004.

Non-refereed Papers

An extended abstract of the paper (about 500 words) must be submitted by January 1, 2004. Authors will be notified of acceptance/rejection by mid-January 2003. An electronic copy of the complete camera-ready paper (in MS Word), presentation slides (in MS PowerPoint), completed copyright and presentation materials release form (paper copies with original signature), will be due by January 30, 2004.

Tutorials and Workshops

Tutorials and workshops provide an opportunity for in-depth treatment of topics ranging from introductory to sophisticated and specialized concepts. Proposals are invited for tutorials and workshops. The proposal should include the tutorial objectives, a brief description (500 words), an outline, proposed length (2-hour, or 4-hour) and a short, professional resume of the instructor. Please send proposals for tutorials and workshops to the Technical Program Committee by January 1, 2004. Tutorial and workshop presentation materials (in MS PowerPoint) and handouts (MS Word or MS PowerPoint preferred, other file formats accepted on a case by case exception) will be due by January 30, 2004.

Important Dates

December 19, 2003	Refereed papers due
January 9, 2004	Notice of acceptance
January 30, 2004	All camera ready copy due

General Co-Chairs <i>Chip Dawson,</i> c.t.dawson@ieee.org RF Micro Devices, Inc., USA <i>Bill Hennen,</i> hennen@mmpa.com Moser, Mayer, Phoenix Associates, USA	Technical Program Co-Chairs <i>Ken Williams,</i> williams@ncat.edu Computer Science Department North Carolina A&T State University 1601 E. Market Street Greensboro, NC 27411 USA <i>Shan Suthaharan,</i> ssuthaharan@uncg.edu University of North Carolina at Greensboro, USA	Student Program Co-Chairs <i>John C. Kelly, Jr.,</i> jck@ncat.edu North Carolina A&T State U., USA <i>Ibrahim Kateeb,</i> kateebi@gtcc.cc.nc.us Guilford Technical Community College Student Branch Councilor, USA
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IEEE Foundation Adds More VIPs to IEEE Region 3!

By Karen Nowicki

VIP Coordinator, IEEE Foundation

The *Volunteers In Philanthropy (VIP)* Program has trained twelve more VIPs. On 27 July, Karen Nowicki, VIP Coordinator and Kristina Collmann, Director of Development for the IEEE Foundation were invited to conduct a *VIP* Training for the IEEE Eastern North Carolina volunteers. The IEEE Eastern North Carolina training was the fourth *VIP* Training in IEEE Region 3 to date in 2003. Prior *VIP* Trainings also include a session at the Florida Council meeting in Tampa, FL and two sessions held at SoutheastCon 2003 in Jamaica.

Founded in 1973, the IEEE Foundation is the principal philanthropic instrument of the IEEE. It is a grant-making non-profit 501(c)(3) organization responding to the need of supporting education at all levels, preserving, researching and promoting the history of electrical and information technology, as well as recognizing engineering achievements. The goal of the IEEE Foundation is to be an advocate for programs that reflect the breadth and range of IEEE's fields of interest and to make a significant, positive, global impact on the profession.

To keep engineering and technology programs exciting and engaging, the IEEE Foundation supports philanthropic programs that:

- ◆ Encourage young people to discover science and technology;
- ◆ Foster technological innovation;
- ◆ Preserve the history of electrical and information technology;
- ◆ Promote the public's awareness of engineer accomplishments; and
- ◆ Provide support to programs that will significantly advance the profession and help the IEEE Foundation meet its broader societal responsibilities.

In response to meeting the challenging needs of expanding and increasing IEEE charitable support, the IEEE Foundation created the *VIP* Program to create a greater awareness of philanthropy. The *VIP* Program is designed to encourage growth of the philanthropic culture based on the mission of the IEEE Foundation.

Initially the IEEE Foundation team was invited to Raleigh/Durham, NC to assist volunteers from the IEEE Eastern North Carolina Section in their pursuit of philanthropic dollars for the DARPA (Defense Advanced Projects Agency) Challenge project. The DARPA Grand Challenge is a race of autonomous ground vehicles between Los Angeles and Las Vegas that will be held on March 13, 2004. However, they were happy to also have in attendance, IEEE Section volunteers who had a strong interest in education and wanted to learn more about philanthropy at the IEEE.

If your local IEEE Section or Chapter is interested in seeking or increasing funds to support a worthwhile program, *VIP* Training is for you! If you sign up for a *VIP* Training, we can help:

- ◆ Spread the word about your charitable goals while also assisting the IEEE Foundation in its efforts to remain in touch with local current donors;
- ◆ Train your IEEE Volunteers so that they can develop the skills to approach current donors and garner support for local and international efforts; and
- ◆ Provide a philanthropic support network with other VIPs and staff throughout the Region and eventually throughout the world.

The next *VIP* Training in IEEE Region 3 is scheduled for the Florida West Coast and Orlando Sections on 18 October in Tampa, FL. *VIP* Training can also be customized to fit your Section's current philanthropic objectives. If your IEEE Section is interested in learning more about *VIP*, or if you would like to attend the 18 October *VIP* Training in Tampa, FL, please contact Karen Nowicki at k.nowicki@ieee.org or by phone at +1 732-562-3939.

The IEEE Development Office would like to extend a special thank you to the IEEE Eastern North Carolina Section for their wonderful hospitality. We enjoyed meeting the Section members and it was our pleasure and honor to be a part of the IEEE Eastern North Carolina Section community for the weekend.

Brain Teaser Challenge Column

By Butch Shadwell

April BTC Solution

Sorry if some of you have been suffering with BTC withdrawal. I think congress is considering a law to force me to put a warning label on each one about their addictive qualities. I think I'm back now from my writer's block.

I must say that I have received a number of replies to the last column, but unfortunately only one has answered correctly, to date. It seems that most folks are laboring under the mistaken notion that magnetic lines of force obey an inverse square law, as light and other line of sight radiations do. However, if you recall the drawings of the lines of force around a bar magnet, they do not follow line of sight. As the lines of force exit the pole they diverge as they curve around toward their opposite pole end. This results in an inverse cube law for magnetic flux density. That's why small clearances are so important in magnetic tape recording and some rotating electric machines. So the correct answer to the first part of last month's piece is 10 Gauss. And it is a simple fact that there are 10,000 Gauss in a Tesla. But I bet "most" of you already new that.

September BTC

What part of the chicken does the "nugget" come from? It seems awful to kill all those chickens just to get their nuggets.

Speaking of nuggets, here's a real gem of information for you – Did you know that sometimes I make stuff up in these columns. Not the technical stuff, but some of the silly stuff. Over the years I have created a bunch of fictitious relatives, and lots of strange adventures. I hope my readers will accept this confession in the spirit in which it is offered. Maybe my personal life isn't all that interesting. Maybe I am a nerdish little fellow living a dark room full of empty delivery cartons of Chinese food. Maybe my white things do come out of the laundry a little dingy. ... What was I writing about? Please forgive this ridiculous stream of consciousness. I must have missed my 4pm medication.

If you were driving the gate of a large N-channel MOSFET transistor, with a microcontroller output that has an internal resistance of 200 ohms, how long will it take to get the gate voltage up to the full V_{gson} of 4 volts? The CPU is running on a 5 volt supply, the FET source is at the CPU ground potential, and the gate-source capacitance of the FET is 15 pF. Let's ignore the effects of the drain circuit for this exercise. This is an important consideration, since this period is the time of greatest power dissipation in switching transistors.

Please don't think less of me because my clothes may not be perfectly laundered. I had a difficult childhood.

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/>

IEEE Region 3 - Employment Assistance

Welcome to the IEEE Region 3 Employment Assistance Project.

This web site has been developed to bring together into one location the best sources of career planning, current job openings and information about companies that may be hiring. The site has been organized to promote job searching at both the local and national levels.

A key feature of the site is the availability of company contact information. The [Company Database Request](#) will provide information that can be used to find potential companies and make that first important contact.

The success of this site depends on input from IEEE members in Region 3. Please [submit](#) your Employment Assistance links and help us continue to improve this important member resource.

September 2003 Calendar of Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 <i>Labor Day</i>	2 <i>IEEE FWCS EXCOM Meeting at 5:30pm TECO Plaza</i>	3	4	5	6
7	8	9 <i>COMP/AESS & INCOSE Mtg at 1:00pm Raytheon St Petersburg</i>	10 <i>FWCS Section & ASME Joint Tour at 6:00pm Desalination Plt Apollo Beach</i>	11	12	13
14	15	16	17	18	19	20 <i>Students/ Section/PES/IAS Cookout at 11:00am USF Riverfront Park</i>
21	22	23	24 <i>Power Systems Seminar for Consulting Engineers 8:30am-5:00pm</i>	25	26	27
28	29	30				

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Sections Congress 2005 is coming to Tampa!

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