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Section of the IEEE**
Serving over 2,300 members in
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Hernando, Hillsborough, Lee, Manatee,
Pasco, Pinellas, Polk, and Sarasota
Counties

THE SUNCOAST IEEE SIGNAL



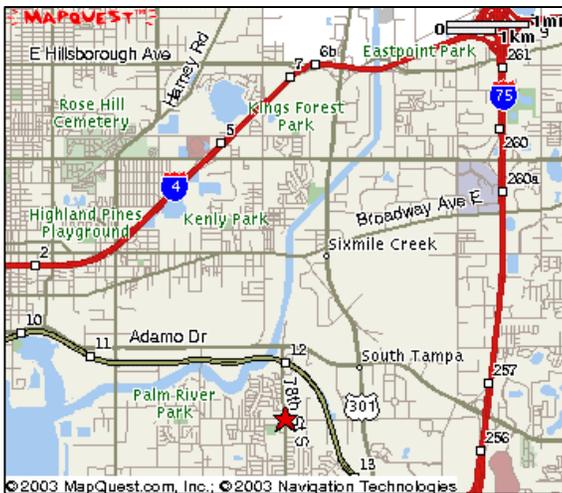
THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, INC.

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

Volume 46 - No. 10

October 2003

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



**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: Srinivas Katkoori
University of South Florida (813) 974-5737
katkoori@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 (813) 366-4201

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

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

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 by the Friday following the 1st Thursday of the month preceding the issue month. Address all correspondence to:

Prof. Srinivas Katkoori,
4202 E. Fowler Avenue, ENB 118, Tampa, FL 33620.
Voice: (813) 974-5737 Fax: (813) 974-5456
E-MAIL: katkoori@ieee.org
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Chair's Comments

By John Conrad

Quang Tang is one happy ex-Signal Editor. After producing our newsletter since 1997 he is finally free from the responsibility and his new found freedom shows itself as his grin spreads from ear to ear. Thank you Quang for an excellent job.

Your Section really appreciates your many years of hard work.

Our new editor, Sri Katkoori, was responsible for producing this issue of the Signal and we look forward to reading many more issues produced under his guidance. Please send all articles and meeting notices to Sri at katkoori@ieee.org or call him at (813) 974 5737.

Another active new member to the EXCOM is Carlo Dionson. We asked Carlo to investigate Science Fairs in the twelve counties covered by our section. It looks like ten of the counties hold science fairs so Carlo will now consider whether our Section should get involved with more than just the two (Hillsborough and Pinellas) that we have supported in the past.

FWCS has a history of hosting conferences in the Tampa Bay area. Next year we are hosting the Industrial & Commercial Power Systems Conference at the beginning of May and in 2005 we are hosting a Substation Committee Meeting and the huge Sections Congress. We are also getting more involved in another local conference. The Electrical Engineering Department at USF has held a Wireless & Microwave Information Systems, WAMI, Forum for a number of years and it has been very successful. Traditionally the MTT/AP/ED Chapter and the SP/COMM Chapter have supported this event but now we are considering increasing this support by involving more section volunteers in all the administrative tasks associated with holding a two-day conference for over a hundred engineers and students. If you are interested in helping with any of these conferences just contact me or any member of EXCOM. We always need enthusiastic volunteers.

Written by: Be Tucker (bematg@hotmail.com)

I am pleased to announce University of South Florida's first SPAC seminar, to be held on 14th November 2003 starting at 1:00 p.m. to 5:30 p.m. SPAC stands for Student Professional Awareness Conference. We believe that this seminar will greatly benefit all the students, not just engineers. This seminar will give potential graduates a better understanding of a career choice and the working environments in the work place. The two main topics that will be discussed at the seminar are Career Growth and Working. We will have two distinguished guest speakers from the SPAC Committee who are very knowledgeable on these topics and they will present a brief presentation.

If any company or companies and or any individual would like to donate toward this event, please send it to: IEEE FWCS, c/o Ralph D. Painter, Jr., 648 Timber Pond Drive, Brandon, FL 33510-2937. Any donations will be greatly appreciated.

The engineering students of today will be the future of tomorrow.

Awards and Recognition Nominations Solicited!

By Richard E. Beatie, P.E., FWCS Awards/Recognition Chair
r.beatie@ieee.org, 813-289-0252

Every year our Section has the opportunity to submit worthy candidates for several Florida Council and Region 3 Awards. Specifically: Outstanding Service, Outstanding Engineer and Outstanding Engineering Educator awards. The August Suncoast Signal had a full-page article describing the awards and inviting nominations (check out the Section WEB site to download this issue if you missed it!). To date, the response has been appalling. With over 2,300 members in our Section there has to be many worthy candidates that can be nominated for these awards. Please step up to the plate and nominate one of your peers today!

Due dates are November 1 for Florida Council and December 1 for Region 3. Details on the qualifications, and appropriate nomination forms are available from the Florida council website at www.ewh.ieee.org/r3/fc/awards.htm. Please feel free to contact me for more information or help in nominating a candidate for ANY award!

IEEE Technical Field Awards nominations are also being sought! The June edition of the Institute (Page 8) listed a brief overview of all the available awards. They are all prestigious, and many of them provide a very significant monetary honorarium as part of the award! For more information visit <http://www.ieee.org/about/awards>. Let's get some Florida West Coast Section members in the running!

IEEE USA also offers a number of prestigious awards. Go to <http://www.ieeeusa.org/awards/forms.html> to find out more information! Nominate a friend or peer!

PLEASE! Take the time to nominate a worthy candidate for any of the available IEEE awards and provide your colleague with the recognition they deserve!

IEEE Annual Elections Vote! Vote! Vote!

Ballots have been recently mailed to all members for election of Institute and Society officers. Please take the time to review the candidate's position statements and vote for the candidates of your choice. This is your opportunity as a member to direct IEEE entities future through your vote. EVERY vote counts – If you don't vote – don't complain! Position statements are available at:
www.ieee.org/portal/index.jsp?pageID=corp_level1&path=corporate/elections&file=candidates.xml&xsl=generic.xsl

IEEE EDUCATIONAL ACTIVITIES BOARD (EAB): 2003 EAB AWARD RECIPIENTS

IEEE EAB announces the recipients of the following awards:

- Meritorious Achievement Award in Accreditation Activities
- Major Educational Innovation Award
- Meritorious Service Citation
- Section Professional Development Award
- Meritorious Achievement Award in Continuing Education
- Pre-College Educator Award
- Employer Professional Development Award

Please visit the IEEE EAB Awards website at:

<http://www.ieee.org/organizations/eab/arc/awards/recipients2003.htm> for a full listing of the recipients and their accomplishments.

Also, note that 2004 Call for Nominations for these Awards will be available in December 2003. For more information, please visit <http://www.ieee.org/organizations/eab/arc/awards/callnominations.htm>.

Adaptive Modulation, Coding, Transmit Diversity and Networking for Next-Generation Wireless Systems

Dr. Lajos Hanzo
University of Southampton

Date/Time: Friday, October 10, 2003 at 6:00 pm

Location: University of South Florida (check the web site for details,
http://ewh.ieee.org/r3/floridawc/soc_commsig.html)

Food: Refreshments provided at the meeting. Dinner at members expense after the lecture at a local restaurant to be announced at the lecture.



Abstract: Multi-standard operation is an important requirement for the future generations of wireless systems. This overview commences with the portrayal of a versatile broadband multiple access schemes, combining frequency-hopping (FH) with multi-carrier DS-CDMA (FH/MC DS-CDMA). The proposed FH/MC DS-CDMA scheme is capable of meeting the requirements of future generations of wireless systems, by supporting backwards compatibility with the existing 2nd- and 3rd- generation systems, while also introducing more advanced techniques facilitated by the employment of Software Defined Radios (SDR) and efficient adaptive base-band algorithms.

The presentation continues by demonstrating that symbol-by-symbol adaptive Orthogonal Frequency Division Multiplex (OFDM) modems have the potential of counteracting the near instantaneous channel quality variations of wireless channels and hence attain an increased throughput in comparison to their fixed-mode counterparts. By contrast, various diversity techniques, such as Rake receivers and space-time coding, mitigate the channel quality variations in their effort to obtain a reduced BER. This overview investigates a combined system constituted by a constant power adaptive modem employing space-time coded diversity techniques in the context of both OFDM and MCCDMA. The combined system can be configured to produce a constant uncoded BER and exhibits virtually error free performance, when a turbo convolutional code is concatenated with a space-time block code. It was found that the advantage of the adaptive modem erodes, as the overall diversity-order increases.

The joint benefits of employing both adaptive physical and adaptive network-layer performance enhancement techniques are substantial. More specifically, conventional systems would drop a call in progress, if the communications quality falls below the target quality of service and it cannot be improved by handing over to another physical channel. By contrast, the adaptive transceivers of the near future are expected to simply instantaneously drop the throughput, rather than dropping the call by reconfiguring themselves in a more robust mode of operation. Our results demonstrated that the proposed beam-forming and adaptive transmission aided techniques may double the expected tele-traffic capacity of the system, whilst maintaining the same performance as their conventional fixed-mode counterparts [6]. The overview concludes by highlighting a range of open problems.

Biography: During his 27-year career **Lajos Hanzo** has held various academic and research positions in Hungary, Germany and the UK. Since 1986 he has been with the University of Southampton, where he holds the Chair of Telecommunications. Over the years he has co-authored 10 books on mobile radio communications, published about 450 research papers. Lajos has also been awarded a number of distinctions and he is an IEEE Distinguished Lecturer. For further information on research in progress and for associated papers and book chapters please refer to <http://www-mobile.ecs.soton.ac.uk>



Reservations: Please use our new web based reservation tool at:

<http://www.weiquality.com/fwcs-meetings/>

Primary point of contact: Bror Peterson (727) 302-4710, bror_w_peterson@raytheon.com.

Directions: Check the web site for details http://ewh.ieee.org/r3/floridawc/soc_commsig.html



TRIZ—FOR BREAKTHROUGH PROBLEM SOLVING AND “REVERSE” TRIZ FOR FAILURE ANALYSIS AND PREDICTION

Mr Jack Hipple, Innovation-TRIZ

Date/Time: Tuesday, October 28, 2003 at 5:30 to 7:30 PM

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

Food: Light refreshments will be provided.



Abstract: TRIZ (Theory of Inventive Problem Solving) is a revolutionary problem solving technology that uses the fundamentals of contradiction resolution, ideality, and evolution of technical systems to achieve product and process design breakthroughs. The problem solving directions are based on the patterns of invention that have been identified after studying millions of the world’s most inventive patents. The TRIZ methodology has solved thousands of some of the most difficult product and engineering design problems across many different industries. The most effective use of the methodology is in the area of problem solving where severe contradictions in performance criteria or design appear to be irresolvable. In a new application, TRIZ in “reverse” is now used to identify potential failure routes and mechanisms unidentified by FMEA and HAZOP processes. It has been used in the chemical, food, consumer products, electronics, and banking industries.

Biography: Jack has 35 years of experience in the chemical and materials industries. He was also program manager for Technology Transfer and Foreign Technology Sourcing with the National Center for Manufacturing Sciences. Prior to forming his own company in 1999, he worked in a business development role with Ideation International, a leading TRIZ software supplier. He has received formal training in major innovation tools including TRIZ, Six Hats™ and Lateral Thinking™, Michael Kirton’s KAI™ methodologies and assessment tools, as well as Myers Briggs and Insights® social style assessment tools.

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.

* **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

Thinking about a new career?

You say you want to improve your personal or professional standing within your organization. But how do you do that? A simple five-step process can put you on the path to career improvement. First, list your dissatisfaction with your current situation. Then identify a vision of excellence, and list the barriers that keep you from achieving your vision. Identify how to overcome those barriers, and, finally, carry out your plan. For more on the five steps, go to

<http://www.todaysengineer.org/July03/process.asp>

IEEE Science Fair: Calling All Volunteers

By Carlomagno B. Dionson (carlomagno@ieee.org)

In an outreach effort to the community, the IEEE FWCS has decided to expand its science fair involvement to the other ten counties, besides Hillsborough and Pinellas. However, in order to make this happen, we need volunteers to act as judges for these fairs. Please choose from the following fairs that you would like to get involved:

<i>County</i>	<i>When</i>	<i>Where</i>
Charlotte & Lee Counties (joint fair)	Jan. 31, 2003 8:00 am -12:00 pm (Judging)	Harborside Convention (Ft. Myers)
Citrus County	Feb. 4, 2004 8:30 am - 2:00 pm (Judging) Feb. 7, 2004 6:00 pm - 9:00 pm (Awards)	Crystal River Mall, Crystal River, FL (Fair) Curtis Peterson Auditorium, Lecanto, FL (Awards)
DeSoto & Okechobee Counties	Feb. 12, 2004 8:00 am (Judging) Feb. 13, 2004 7:00 pm (Awards)	Osceola Middle School (Okechobee)
Hernando County	Feb. 3, 2004 8:00 am (Judging) Feb. 10, 2004 evening (Awards)	Some hall on County Line Road.
Hillsborough County	Feb. 25-26, 2004 8:00 am	University of South Florida Sun Dome
Manatee County	Jan. 27, 2004 4:00 pm (Judging) Jan. 29, 2004 6:00 pm (Awards)	Palmetto Fairgrounds
Pasco County	Feb. 7, 2004 9:00 am – 12:00 pm (Judging) Feb. 7, 2004 3:00 pm – 5:00 pm (Awards)	Ridgewood High School
Pinellas County	1 st week of February (tentative)	Parkside Mall (tentative)
Polk	Feb. 2-4 (tentative)	Citrus Building in Winter Haven (tentative)
Sarasota	Jan. 28, 2004 8:00 am (Judging)	Robard's Arena in Sarasota Fairgrounds
Note: Hardee County is not having a science fair this year. However, Mr. Kaykon Nedza, science director for the county, would like any relevant materials/literature for an electrical energy class he is starting sometime in Spring 2004 for middle school students.		

Interested parties may register online at: <http://www.weiquality.com/fwcs-fair/> Most dates and locations should be finalized around October 2003. Volunteers will be contacted when changes occur. Comments, suggestions, or questions can be directed to carlomagno@ieee.org.

Looking for a Job/Internship?

Reynolds, Smith, and Hills, Inc. is an Architectural, Engineering, Planning, and Environmental firm with locations throughout the state of Florida, Texas, North Carolina, Illinois, and Michigan. They are currently searching for many entry level engineers and architects. *Visit them online at <http://www.rsandh.com> or send your resume by email to employment@rsandh.com Mailing address: 10748 Deerwood Park Boulevard South, Jacksonville, Florida 32256 FAX: 904-256-2520. Electronic Resumes are preferred.*

Students Corner

IEEE started off the semester with quite a bang! From a tailgate party to a student-faculty mixer and a picnic sponsored by FWCS, our social calendars were certainly a little more packed last month. Its not all fun and games as we challenge students this month to go to the Navy Seal Briefing on October 15th at Teco Hall, hosted by FWCS and to attend Dr. Henning's Seminars which cover a wide range of topics that are relevant to all engineers, not only electrical students. For more information on both of these events, please contact Kristy or Angela at ieee@eng.usf.edu.

Currently, teams are being formed to compete in the Southcon 2004 Student Hardware Competition. This competition is open to both electrical and computer engineering students. For more information regarding this topic, please contact Angela Alexander at angela.alexander@ieee.org.

Students are encouraged to join the IEEE student list-serv to find out about more events planned for the rest of the semester: http://lists.acomp.usf.edu/cgi-bin/lyris.pl?enter=ieee&text_mode=0.

Guided Tour of MOTE Marine Laboratory Including Aquarium, Marine Mammal Center and Science Labs

Date/Time: Thursday, 13th November 2003 at 11:30 AM
Location: 1600 Ken Thompson Parkway, Sarasota, FL. 34236.
Cost: \$15.00 per person. Includes GOURMET Box Lunch.

Mote Marine Laboratory is a renowned institution for marine scientific research with a worldwide reputation. Shark research and Red Tide studies are just a few of the projects. The Aquarium has a display of local and exotic sea creatures that make it a prime tourist attraction in the Sarasota area. Watch Manatees munch their lunch of cabbages and lettuce. Mote also nurses sick mammals back to health in the Mammal Center. Learn about Aquaculture Research (fish farming) that is being done to replenish the stocks of Snook and other species in the Gulf. After the tour feel free to wander through the Aquarium, and visit with the fish at your leisure. Mote Marine has a large staff of volunteers who donated their time to help with the research. Are you interested? Contact Jules Joslow for more details.

Directions: From Route 75 take Exit 210 (Fruitville Road) west to Route 41 (Tamiami Trail). Turn left for one traffic light getting into right most lane ASAP. Turn right and follow that road over the NEW FIXED BRIDGE to St. Armand's Circle. At the circle take the first exit to the right (Columbia Restaurant on corner). Continue on that road to the right turnoff just before the bridge to Longboat Key. That is Ken Thompson Parkway. The third driveway on right is the entrance to Mote's parking lot. Large blue signs says Aquarium. Meet at the Whale Fountain just in front of the main entrance.

Reservations: Make reservations on line: <http://www.weiquality.com/fwcs-meetings/>
or call Jules Joslow at (800) 274-2383. Nov. 10 is last day to make reservations.

IEEE EAB SEEKS INDUSTRY PROFESSIONALS TO SERVE AS PROGRAM EVALUATORS FOR ACCREDITATION ACTIVITIES

The IEEE Educational Activities Board (EAB) seeks professionals in industry, government, and academic sectors to serve as program evaluators for the following Accreditation Board for Engineering and Technology Inc.-accredited programs at U.S. colleges:

- Biomedical Engineering and Biomedical Engineering Technology
- Computer Engineering and Computer Engineering Technology
- Electrical Engineering and Electrical and Electronic Engineering Technology
- Software Engineering and Software Engineering Technology
- Electromechanical Engineering Technology
- Information Engineering Technology
- Laser-Optics Engineering Technology
- Telecommunications Engineering Technology

Applications for the 2004-2005 academic year are due by 15 Nov. They will be reviewed during the January/February IEEE meetings. Notification will be sent to applicants by 1 March.

Service as a program evaluator gives members of the profession an opportunity to contribute to the achievement of high quality educational standards of engineering and engineering technology programs. Nomination and application forms for people interested in engineering are available at: <http://www.ieee.org/organizations/eab/apc/ceaa/eacinfo.htm>; forms for those interested in engineering technology are at <http://www.ieee.org/organizations/eab/apc/ctaa/tacinfo.htm>.

For more information, contact Carolyn Solimine at +1 732 562-5484 or c.solimine@ieee.org or Mailto:eab-accred@ieee.org.

Briefing on Navy SEAL Training and Special Operations Command's Role in Operation Iraqi Freedom

Commander Jay Washabaugh, USSOCOM, MacDill AFB

Date/Time: Wednesday, October 15, 2003 at 5:30 to 7:30 PM

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

Food: Lasagna dinner with salad and dessert

Cost: \$10 members, \$15 non-members, \$5 students

**Joint Meeting
Section/GOLD/PACE**

Topic: Commander Washabaugh will share his experiences gained while training and serving as a Navy SEAL. He will also talk about his current role in the acquisition of the ASDS. He will then switch gears and describe the role of MacDill's Special Operations Command, USSOCOM, during Operation Iraqi Freedom.

Biography: **Commander Washabaugh** graduated from the Navy's Basic Underwater Demolition/SEAL training in 1986. Since then he has been assigned to Coronado (San Diego), Philippines, Korea, and Hawaii. The Commander earned his Combat Action Ribbon during Operation Praying Mantis in 1988 when the US Navy attacked Iranian oil-wells in the Persian Gulf that were being used to direct attacks against merchant ships.

Upon return from overseas, he attended the Naval War College in Newport, RI, where he received his Masters in National Security and Strategic Studies in 1998. He served as Operations Officer, Naval Special Warfare Group ONE where he was responsible for all Naval Special Warfare operations and training conducted on the west coast as well as Pacific and Central Commands. He is currently assigned to Special Operations Command at McDill AFB where he is responsible for the acquisition of the Advanced SEAL Delivery System which is a mini-sub launched from a large sub to carry SEALs to the shore.



Reservations: Please make your reservations on-line at www.weiquality.com/fwcs-meetings or contact Denis Trask at d.trask@ieee.org or (727) 773-4685

IEEE EAB Announces Recipients of 2003 Section Professional Development Award

The IEEE EAB Section Professional Development Award recognizes IEEE Sections for major contributions to IEEE members in the areas of life long learning, continuing education, and professional development. The award consists of a brass and walnut plaque. This year's recipients are:

Argentina Section *"For remarkable contributions in continuous education activities, with sustained growth in number, variety and geographical coverage, for the benefit of the technical community"*

Houston Section *"For sustained outstanding contributions in the development, implementation and delivery of a large number and variety of industrially oriented continuing education programs"*

Student Team Mentors Needed for VINNY Award Competition

We need your help to act as a mentor for a team of students. Teams will combine skills in research, writing, and creativity. Share the wealth of your experience with young learners. Named after Leonardo da Vinci, the VINNY is an award for the best one-minute videos (segmented by age levels) explaining how science, technology, engineering, and mathematics can help solve common global problems. Help shape the future. Sign up to be a mentor by October 31, 2003 at <http://vinny.pcs.cnu.edu>. The VINNY award is sponsored by the NASA Center for Distance Learning, Christopher Newport University, and IEEE. Funding is provided by the IEEE Foundation.

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

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Brain Teaser Challenge Column

By Butch Shadwell

July BTC Solution

At the time I'm writing this I haven't received any correct responses to the last BTC. I know that publishing is delayed in some cases, so I expect to hear from more of you as the column gets out there. As you recall, after a few personal confessions, I posed the problem of charging the gate of a MOSFET to V_{gson} . "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."

The general equation for charging a capacitor is $V_c = V_s(1 - e^{-t/RC})$, where V_c is the capacitor voltage after t and V_s is the supply voltage applied. If we solve for t (this is the fun part), we get $t = -RC \ln(1 - (V_c/V_s))$. Substituting for the variables we get $t = 4.83E-9$ seconds. This is pretty fast, but in fact sometimes there are factors around the drain circuit that slow this down a bit, but I bet you already knew that.

October BTC

Man has pondered the moon, planets and stars for all of our existence. Since the first day we started walking upright, there have been no shortage of strange theories about what these lights in the sky were and what influences they may be having on our lives. People have been killed for suggesting an unpopular explanation.

As you may know, Mars is closer to the earth than it has been for centuries and closer than it will be for centuries to come. It is a mere 30 million miles away. If beings from Mars were to want to visit, now would be the time to start heading home. So if your space ship was powered by a nuclear reactor, that had the ability

to accelerate your craft at a constant rate of 9.8 meters per second squared, how long will it take to arrive and stop at Mars orbit? Fortunately, you can swing your ship around so that the thruster can be used to slow as well as speed up your ship. For extra credit, tell the highest speed your ship will reach on this trip. Let's ignore the fact that the target is actually moving during this flight and any gravitational effects.

If you're really feeling intelligent today, tell me the total amount of energy used for the trip in kilowatt-hours if our craft has a mass of 5000Kg. Let's wish our Martian friends a safe journey.

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.shadtechserv.com>. The names of correct respondents may be mentioned in the solution column.



Job Market: Two sides to every story

Behind the headlines announcing thousands of people losing their jobs, thousands are also being hired -- you just don't read about it. While the headlines are true, the other side of this story is that even companies that have just laid off people are still looking for new employees. For job seekers, it's important to keep the positive side of the story in mind. Read on at: <http://www.careerjournal.com/columnists/perspective/20030811-fmp.html>

Building collaboration

Many factors contribute to workplace success -- not just teamwork, communication, and leadership, but also collaboration between the staff and management. The Wall Street Journal examines how to build a better collaborative work environment in all fields using the GRIP model-Goal clarity, Role clarity, Interactions, and Process. Go to:

http://www.careerjournal.com/columnists/thebigpicture/20020819-bigpicture.html?home_whatsnew_minor

And for more on how engineers are using collaborative tools, go to

<http://www.spectrum.ieee.org/careers/careerstemplate.jsp?ArticleId=w060103>

October 2003 Calendar of Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	4
5	6	7	8	9 <i>PES/IAS with Beckwith Electric Seminar 8:30-5pm Tampa Electric Skills Trg., Ctr.</i>	10 <i>IES/SPS Talk by Dr. Lajos Hanzo at USF at 6pm</i>	11
12	13	14	15 <i>GOLD/PACE Meeting on Navy Seal by Cmdr. Washabaugh 5:30-7:30pm TECO Hall</i>	16	17	18
19	20	21	22	23	24	25
26	27	28 <i>INCOSE – TRIZ Talk by Mr. Jack Hipple 5:30-7:30pm at Raytheon, St Pete</i>	29	30	31	

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