

Mark your calendar!
SOUTHCON/2004
 January 14-15, 2004

Orange County Convention Center
 9800 International Drive
 Orlando, Florida, 32819

“Solutions for the Entire
 OEM Electronics Team”

www.southcon.org

Inside this issue:

Director-Elect Message **2**

New Emphasis on Grassroots PACE **3**

SoutheastCon 2004 Update **4**

Region 3 Senior Member Program **5**

The IEEE Foundation Adds More VIPs to IEEE Region 3 **6**

This month's Brain Teaser: It's out of this world! **7**

Message from the Region Director

Did you read and enjoy, our last Region 3 Newsletter? I hope so, a lot of Volunteer effort went into producing it for you.

If you did read and enjoy it, please let me know by dropping me an email. If you didn't enjoy it, I would also like to know that as well.

REGION UPDATE:

Did You Mark Your Calendars?

Last month I mentioned our planned Region 3 meeting for all the Sections, along with the Region 3 Executive Committee, which is planned for Friday, November 21, thru Sunday, November 23. Did you mark your calendars? Did you mention it to your Section Executive Committees? If not, please be sure to do so now so you can start planning. Remember, this meeting will take place in Atlanta, which is about the center of our Region and one of the least cost locations to hold a Regional Meeting.

OK, Does Everyone Have Enough Section \$\$\$\$?

I did not hear from anyone on this offer of funds, so here it is one more time - Does your Section have a one-time special project that you are looking for funds for? If so, please send me a note as we have funds available for your use. These funds are provided annually for the support of special projects the Sections might have in mind to help their members. We need to have these funds earmarked no later than November, so please don't let these funds go unused.

Did You Let Your Members Know about the Dues Increase for 2004?

Our dues, with the next renewal, will increase based on several actions taken by the IEEE Board of Directors and by you as the leaders of the Region. The IEEE base dues will increase by an inflationary factor as prescribed by our Bylaws, the IEEE-USA dues will increase by \$1, and will be tied to inflation for future years, and the new Regional assessment you voted on in Jamaica will go into affect. The total of all these increases will only be \$6.00 for our members. These increases will not affect the Students. Be sure to share this information with your members.

Students Are Returning, Be Sure to Invite them to Your Meetings!

One of the largest challenges facing the IEEE is retaining our Student Members as they transition to Professional Members. With that in mind, please be sure to specifically invite your Student Branch Officers to attend your Section Executive Committee Meetings. Also be sure to invite all Student Members to attend your Seminars, Sections meeting, and all Chapter Meetings – and give them a break on the costs when you can.



Jim Howard,

Region 3 Director 2002-2003
j.howard@ieee.org

Ph: 813-876-1748

Wanta Know what other Sections & Chapters are doing?

Almost all of the Region 3 Sections have Web pages where they list their officers, post meeting notices and have general information about their Section. Why not take a minute to visit a few of the web sites and see what the others are up to out there. Visit the web site at <http://www.ewh.ieee.org/ecc/r3/>

Any Questions or Concerns

If you or any of your officers or members has a question or a concern, please don't hesitate to contact me. We will assign the appropriate Region 3 folks to work with you and get all your questions and/or concerns addressed. Let us hear from you soon.



William Harrison
Region 3
Director-Elect
w.harrison@ieee.org

“We have established a Region 3 Forum and are exploring the best ways to use it to serve IEEE members residing in Region 3. Ideas?”

Director-Elect's Comments **Bill Harrison**

2004 Election Reminder

It is time for sections and chapters to appoint their Nominating Committee and identify prospective new officers for 2004. The most recent past Section Chair usually serves as Chair of the Nominating Committee, which has three or four members. The call for nominations should be sent out 120 days prior to election and should reference all elected offices. The slate of candidates should be announced to the membership 60 days prior to election.

More details on the election process and related topics can be found in the IEEE Section Management Orientation presentation located at

http://www.ieee.org/organizations/rab/scs/Officer_Training/Presentations/index.html

IEEE Virtual Communities

In case you have not heard, the IEEE has made a substantial investment in tools for online collaboration called Virtual Communities. The VCs provide collaboration without spam and allow IEEE volunteers to gather and share information, best practices and opinions on topics of local interest (for example, financial reporting issues). A number of Virtual Community Forums have been set up. We have established a Region 3 Forum and are exploring the best ways to use it to serve IEEE members residing in Region 3. Ideas?

The VCs are still a work in progress. Some of us have provided criticism and positive feedback to the developers and support staff. These online collaboration tools offer great opportunities for IEEE volunteers/members to share ideas and help one another. The IEEE Virtual Community home page is located at <http://www.ieee.org/organizations/eab/vc/index.htm>.

IEEE Section Chapter Support

Section/Chapter Support staff at the IEEE in Piscataway, NJ is there to provide as-

sistance to the volunteers of IEEE's geographic units worldwide. If you want to order officer pins, start a new society chapter, or have a question about your Section rebate, please get in touch with them. They are there to help.

IEEE Regional Activities Department
Section/Chapter Support
Phone: + 1 732 562 5512
Fax: + 1 732 463 9359
Email: sec-chap-support@ieee.org

HOWEVER, do not hesitate to call or email your questions, concerns, issues, (kudos are especially welcome, too) to me (404-378-5553, w.harrison@ieee.org) or to Region 3 Director Jim Howard.

PLEASE join and use the Section-Chapter Volunteer Forum (Virtual Community). It is located at

https://www.ieee.comunities.org/section-chapter_vol. Let me know what you think about it.

IEEE and Region 3 Employment Assistance

Lee Stogner, Region 3's Membership Development Chair, was instrumental in setting up a Region 3 Employment Assistance web page located at <http://ewh.ieee.org/reg/3/ea/index.html>. This site now has a link to the IEEE-USA Virtual Community called Employment & Career Strategies Forum. This online discussion area is open to all IEEE members. Within this forum, participants can ask both career and employment questions, post reference material, and get answers to their questions.

CHECK OUT the Employment and Career Strategies Forum link from the R3 Employment Assistance web page. Think about it. When is the best time to prepare for your next career move? While you are employed and have a great future with your present employer? Or after something happens at the company and the real pressure is on? BE PREPARED. Look at these IEEE career-planning resources.

New Emphasis on Grassroots PACE

A good time to contact your elected representatives is anytime they are in the home district. Sometimes there are weekend "Town Hall" meetings organized by the Congresspersons to get voter inputs. Plan to attend and speak out on issues of concern to you.

Other ways of getting your views heard include:

- Congressional Visit Days – one was held in the H-IB issue in July
- The CARE (Congressional Advocacy Recruitment Effort) Program – you visit a district office and explain your views
- The IEEE-USA Website Legislative Action Center – where you will find a number of current issues on which your views can make a difference

Details on the CARE network and issues are found at <http://www.ieeeusa.org/forum/care/CAREKit2003.pdf>

An effective approach to prepare for a visit with your representative's district office is to review the IEEE-USA policy position statements, select one or two in which you have a personal interest to focus on, and then print these out as a leave-behind for your visit. You can personalize your issues with your own experiences, those of associates, or with your views of how the district may be affected by the issue. You should be able to convey this in a quarter-hour visit, so make an appointment.

If you arrive a few minutes early, you may be able to get some extra time if a previous appointment ends early. Identify yourself as a member of IEEE, but make clear that you are speaking for yourself. Positions adopted by IEEE-USA are official, but your views as a constituent are valued. Even if your representative is not in the district office, because Congress is in session, the district staff are there and these are good people to know. The chief of staff and legislative aide have the ear of the representative, and will make sure that your views are weighed along with others.

The Legislative Action Center can help if you can't make personal visits. Details on current hot issues are found at <http://www.capwiz.com/ieeeusa/home/> together with the tools for drafting e-mails in your own words to send on issues of interest to you.

The Unemployment Issue

A debate has developed over whether U.S. engineers' failure to keep skills current has contributed to the current high-tech unemployment problem. That was a claim made by employers in the heyday of H-IBs - we couldn't supply qualified American engineers to meet the needs, so they needed dispensation to import guest workers having the required skills. As the market has contracted, e.g., the collapse of the telecommunications industry, and other work has been moved offshore (e.g., EDS, Microsoft, IBM, Oracle, HP, Sun, Intel) we find that we have a 6.4% official unemployment rate for EEs; add in "discouraged workers" who haven't actively sought work in the past month, and the total climbs to 10.6%.

The Spring 2003 Occupational Outlook Quarterly from BLS looks back at ten-year projections of demand for 338 occupations, and finds that for EEs, where a 40% increase has been forecast between 1988 and 2000, there was actually a 16% decrease in demand in that period. For software types, their forecasts were much better. <http://www.bls.gov/opub/ooq/ooqhome.htm>

Competition for Jobs

The movement of jobs offshore through outsourcing is getting a lot of attention now, in addition to the H-IB visas used by guest workers and the L-1 visas intended for temporary intra-company transfers (to spread specialized product knowledge to other parts of the company) but being increasingly abused to provide workers for "third party" positions in other companies.

Three videos about H-IB, L-1, and offshore outsourcing are available for your viewing at <http://www.zazona.com/shameh1b/MediaClips.htm>

The first one is the Lou Dobbs Moneyline feature called "Exporting America," that ran on CNN in May. This one is 21 minutes long. Ron Hira of IEEE-USA is interviewed.

The next two are from WKMG-TV in Orlando - follow-ups to the "Stolen Jobs" feature done last fall that was captured on the IEEE-USA CD-ROM. These ran in early August and included Capitol Hill testimony by Pat Fluno, one of the software engineers laid off by Siemens after she trained her Indian replacement, and interviews with George McClure and Chris McManes of IEEE-USA. These are much shorter.



George F McClure
PACE Coordinator,
Region 3
(g.mcclure@ieee.org)

"As the market has contracted and other work has been moved offshore we find that we have a 6.4% official unemployment rate for EEs; add in "discouraged workers" who haven't actively sought work in the past month, and the total climbs to 10.6%."

“As always, one of the highlights of the conference will be the Student Competitions. “

SoutheastCon 2004 Update

David Macchiarolo, SoutheastCon 2004 Publicity Chair

SOUTHEASTCON 2004, the annual IEEE Southeastern regional technical, professional, and student conference, will be held March 26-28, 2004, at the Greensboro, North Carolina Marriott Downtown hotel. The theme of the conference is

“...Engineering Connects...”

The conference is being co-hosted by the IEEE Central North Carolina Section, Guilford Technical Community College, North Carolina A&T State University and the University of North Carolina at Greensboro. It will include sessions for presentation of technical papers, technical tutorials and workshops, industrial exhibits, professional training, and social events. Detailed planning for the conference has been underway since 2002.

As always, one of the highlights of the conference will be the Student Competitions. Teams of engineering students from colleges and universities from across the southeast United States will compete in the Hardware Contest to overcome a pre-defined robot obstacle course. Other competitions will include Software Programming, best web site designs, and student technical papers.

Call for Papers Issued

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. 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 “secon04@ncat.edu” by the submission deadlines. Each paper must have at least one author that is registered at the full (non-student) rate to attend the conference.

Important Dates:

December 19, 2003- Refereed papers due

January 9, 2004- Notice of acceptance

January 30, 2004- All camera ready copy due

For more information, see the “Technical Program” section of the SoutheastCon 2004 web site.

Student Hardware Contest Rules Updated

North Carolina A&T State University and Guilford Technical Community College will direct the Student Hardware Competition. For the SoutheastCon 2004 Student Hardware Competition, we have sought to develop a challenge that could be implemented in a realistic environment. For the latest information, please see the “Student Program” section of the Southeastcon 2004 web site.

Although March of 2004 may seem like a long way off, it is not too early to begin making your plans to attend SoutheastCon 2004!

For questions about SoutheastCon 2004, please visit the web site at <http://www.southeastcon.com> or contact the SoutheastCon 2004 Publicity Department at: d.macchiarolo@ieee.org,

Region 3 Senior Member Program

Lee Stogner, Membership Development Chair

I would like to congratulate the following Region 3 individuals on achieving IEEE Senior Member status.

Richard Austin, Larry Coffeen, Walid Kamali, Travis Smith, Gennadiy Tsvey, Kurt Leucht, Stephanie Guerlain, Yasin Akhtar Raja, Jean Maraval, Charles Melcher, George Frimpong, James Morizio, Robert Dawes, Willie Fitzpatrick, Seong-Moo Yoo, Mei-Ling Shyu, Wezhong Gao, Mary Jean Harrold, Robert Pearson, Dushan Boroyevich, David Geer, Cyrus Harbourt

These members recognize that Senior Member status is professional recognition by peers for technical and professional excellence. Senior Member status can mark a milestone that says that the individual is capable of supporting major responsibilities at work and for the rest of their professional career. The percent and number of IEEE Senior Members reflects on the competence and prestige of IEEE, its products and services. A side benefit to Membership Development is that Senior Members have a retention rate of 98%.

At the most recent Admission and Advancement Review Panel meeting held in Nashville, the Panel approved 244 Senior Member applications. This brings the total year-to-date Senior Member elections to 1,140 for all of IEEE. With only two more A&A Review Panels scheduled for this year, we need to place emphasis on Senior Member upgrades. Region 3 has a 2003 goal of 181 new Senior Members. As of the June 21 A&A Meeting, we have elevated only 94 or 52% of our goal.

Besides nominating worthy candidates for Senior Member grade, sections and Societies should also be encouraging the newest Senior Members to nominate at least one more Senior Member candidates this year. If every new Senior Member nominated or encourage one other Member to apply for Senior Member, we would more than achieve the goal for this year.

Societies can start their Senior Member efforts by focusing on every eligible Chapter Chair and Society Officer. Not only does this help us to meet our goals, but it also goes to show our appreciation and recognition of their volunteer efforts.

Don't forget that Sections can benefit financially for their Senior Member upgrades. Now through November 12, all applications received and successfully approved by the A&A Committee will generate a \$10 bonus for their Section or Society. More information on the "Nominate A Senior Member Initiative" can be found at,

<http://www.ieee.org/organizations/rab/md/sminitiative.html>

Complete information on the Senior Member Program can be found at, <http://www.ieee.org/organizations/rab/md/smprogram.html>

Senior Members represent the core team that IEEE needs for the future. Please take this initiative seriously, help us reach our Region 3 goals and make a difference in a member's career.

“Senior Member status can mark a milestone that says that the individual is capable of supporting major responsibilities at work and for the rest of their professional career.”



The 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 included a session at the Florida Council meeting in Tampa, FL and two sessions held at SoutheastCon 2003 in Jamaica.

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.

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.

VIP Training can also be customized to fit your Section's current philanthropic objectives. 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 on 18 October in Tampa, FL. All Region 3 Sections are invited to attend VIP Training. We are also making arrangements to hold VIP Training at SoutheastCon 2004. 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, or SoutheastCon 2004, please contact Karen Nowicki at k.nowicki@ieee.org or by phone at +1 732-562-3939.

IEEE Region 3 Newsletter
William Ratcliff, Editor in Chief
C.T. Dawson, Web Edition Editor
Charles Lord, Paper Ed. Editor

<http://ewh.ieee.org/reg/3>

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 - August 2003

Butch Shadwell

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.

Reply to Butch Shadwell by September 20 at b.shadwell@ieee.org (email), 904-223-4510 (fax), 904-223-4465 (v), 3308 Queen Palm Dr., Jacksonville, FL 32250-2328. (<http://www.shadtechserv.com>)
The names of correct respondents may be mentioned in the solution column.



Brain Teaser Challenge Solution - July 2003

Butch Shadwell

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_{gs} . "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_{gs} 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.