



IEEE *The Open Channel*

Newsletter for the Hampton Roads Section of the IEEE
The Institute of Electrical and Electronics Engineers, Inc.

http://www.ewh.ieee.org/r3/hampton_roads/
<http://www.ieee.org/hrs>

Volume 1 – No. 7

October 2004

Speaker: Mr. William Clayton
Electronics Engineer
US Joint Forces Command, Department of Navy
Suffolk, VA

Date/Time: Thursday, October 21, 2004 at 6:30 PM

Location: Topeka's Steakhouse 'N Saloon
55 Town Center Way **757.896.9696**
Hampton, VA 23666

Cost: Members and guests \$20; Students \$10

The Hampton Roads Section of the Institute of Electrical and Electronics Engineers, Inc. and the Hampton Roads Area Chapter of the International Council on Systems Engineering are holding a joint meeting on Thursday, October 21, 2004 at 6:30 PM. **Mr. William Clayton** will be speaking on Wireless Security.

Wireless has changed our life. It is quick. It is easy. But like any great advance in technology there is a down side. Unless you use reasonable caution, your wireless connections can open you to anyone in your neighborhood with their own wireless card. This presentation will provide simple steps to reduce your risk while using wireless both at home and in the office.

Biographical sketch: Mr. Clayton is an Electronics Engineer with the Department of the Navy working with the US Joint Forces Command. He serves as an Information Assurance Officer for one of the high tech laboratories used to evaluate new technologies for rapid deployment to the war fighter. As part of his duties he has participated in the deployment of a number of wireless systems in both the field and office.

Reservations: Please forward RSVP to Brent Phillips [bphillips@ieee.org] or William LaBelle [757-619-9050, w.labelle@ieee.org] if you have questions about the meeting.

Checks: Checks should be made out to IEEE and brought to the meeting.

Upcoming Meetings

Oct 21 Joint Meeting with INCOSE

Nov 18

System Safety/Software Safety

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2004 IEEE Executive Committee Hampton Roads Section

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THE OPEN CHANNEL is published monthly during the academic year (September through November, January through May) by the Hampton Roads Section (HR) of the Institute of Electrical and Electronic Engineers, Inc. (IEEE). THE OPEN CHANNEL is sent each month to members of the IEEE in Hampton Roads. Annual subscription is included in the IEEE membership dues. The opinions expressed, as well as the technical accuracy of authors or speakers published in this newsletter are those of the individual authors and speakers. Therefore no endorsement by the IEEE, its officers, or its members is made or implied.

All materials for THE OPEN CHANNEL are due by the 25th day of the month preceding the issue month. Address all correspondence to:

William LaBelle

6224 Glenrose Drive
Suffolk, VA 23435
Voice: (757) 619-9050

E-MAIL: w.labelle@ieee.org

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From the Chair

Dear Colleagues,

WHATS YOUR SIGN?

If is Leo or more accurately LEOS, I want to talk to you. The Lasers & Electro-Optical Society is the third largest group in the Hampton Roads Section. Yet, we currently do not have a Society member active in the Section leadership. This hampers our ability to serve this community.

We know there have been efforts to form a LEOS Chapter in the past, and for a while we actually had one. However in those days reports had to be mailed and we had fewer tools to reach our members. I believe that a second attempt could be enomously sucessful. Just to sweeten the pot, I will point out that in return for holding two meetings a year, you will have a \$200 budget.

So, just to make it perfectly clear, here is my challenge. Find one LEOS to run the Chapter and one to serve on the Section Executive Board. Then hold two meetings, or more, per year. This should be easy. Lets see if you agree.

Anyone who feels they have a good idea to how to make our IEEE Section more productive please give me a call or drop me a line.

Sincerely,
Bill Clayton
Acting Chair
Hampton Roads Section
w.clayton@ieee.org
W: (757) 203-7090
H: (757) 432-9000

Become a Senior Member

- Senior Member drive

Of the 450 of the sections active membership hold a grade of 'Member' almost 400 may be eligible for upgrade. Information on requirements for elevation from 'Member' to 'Senior Member' can be found at <http://www.ieee.org/organizations/rab/md/smprogram.html>.

Membership Renewal 2005

IEEE membership renewal drive is underway, the renewal notices have been mailed. Keep your IEEE membership current for 2005. Consider renewing online. This year you do not need an online account to renew, you need member number and a PIN (provided in the renewal notice). IEEE has made it easy to view/update your current membership information, add Society memberships and subscriptions to IEEE publications

Renew at <http://www.ieee.org/renewal>.

Members can register for a Web Account at:
<http://www.ieee.org/web/accounts>.

Topeka's Steakhouse 'N Saloon:

Directions from Norfolk:

1. Take the HAMPTON RDS CENTER PKWY WEST exit-exit number 261A. (0.3 miles)
2. Merge onto HAMPTON ROADS CENTER PKWY. (0.5 miles)
3. Turn RIGHT onto VA-600 N/BIG BETHEL RD. (0.1 miles)
4. Turn RIGHT onto TOWNE CENTRE WAY. (<0.1 miles)
5. End at 55 TOWN CENTER WAY HAMPTON VA

Directions from Williamsburg:

1. Take the HAMPTON RDS CENTER PKWY WEST exit-exit number 261A. (0.2 miles)
2. Merge onto HAMPTON ROADS CENTER PKWY. (0.2 miles)
3. Turn RIGHT onto VA-600 N/BIG BETHEL RD. (0.1 miles)
4. Turn RIGHT onto TOWNE CENTRE WAY. (< 0.1 miles)
5. End at 55 TOWN CENTER WAY HAMPTON VA



Vote in the IEEE Election

Annually, the IEEE members are requested to participate in the IEEE elections. This is your opportunity to provide input to determine who will serve on the IEEE Board of Directors, Regional Activities Board, Technical Activities Board, IEEE-USA Board and the Standards Association Board. The ballots have been mailed and must be returned PRIOR to 1 November 2004. For the first time, members may cast their ballots either electronically or by mail. Instructions and codes for electronic transmission are provided in the election ballot materials.

In the 2003 IEEE Election, only 15% of the eligible voters returned a valid election ballot. This percentage reflects the recent trend in which the amount of ballots returned has decreased. In an attempt to increase the number of ballots returned, the Regional Activities Board has agreed to recognize two Sections (one large/one small) that have the highest percentage increase in the number of ballots returned in the IEEE annual election. A Section is considered large if it has 501 or more members. The Hampton Roads Section is considered a large section.

Visit the IEEE election website (<http://www.ieee.org/corporate/elections/candidates.xml>) for the most accurate and up-to-date information on all candidates and election categories. In addition to selecting candidates, this year members also are being asked to vote on a constitutional amendment containing revisions to the wording of the IEEE Constitution. For detailed information on these changes, visit <http://www.ieee.org/about/whatis/bylaws/changesgrid.xml>.

Please return your ballots or vote online by the requested due date.

Call for Nominations Region 3 Delegate/Director - Elect

As prescribed by our Region 3 Bylaws and Operations Manual, we are requesting the Region 3 Committee (ExCom and Section Chairs) to submit candidates for Region 3 Delegate/Director - Elect for the term 2006 -2007. Two or three of the candidates submitted will be selected and placed the ballot for a region wide election held in the fall of 2005. Based on the results of this election one candidate will be elected as our Region 3 Delegate/Director - Elect (2006-2007). This person will then become the Region 3 Delegate/Director and will serve for the term 2008 - 2009.

The submitted candidates must meet the following qualifications:

1. IEEE Senior Member or Fellow grade.
2. Have demonstrated prior leadership and management skills within Industry/Academia and have been active at the IEEE Section/Chapter, Regional/Society, and/or major Board level.
3. Must agree to serve two years as Delegate/Director - Elect and two years as Delegate/Director. Please submit prior to September 30, 2004 the name, IEEE member grade and number, contact information and a brief statement of the candidates qualifications to:

Jim Howard,
Region 3 Nominations and Appointments Committee Chair
3133 W. Paris St.
Tampa, FL 33614
Phone: 813-876-1748
E-mail: j.howard@ieee.org

The qualifications of all nominees submitted will be discussed by the Nomination and Appointments (N&A) Committee. The N&A Committee will report its recommended nominees to the Region 3 Executive Committee (ExCom) for approval. The Region 3 Committee will be requested to endorse the ExCom slate of nominees to be placed on the IEEE election ballot for

2005. *Hampton Roads Section*

Locally, the Hampton Roads Section will be holding its annual election of officers in November. As with all sections and chapters in IEEE the elected positions are: Chair, Vice Chair, Treasurer, and Secretary. Send in your nominations now to William LaBelle [w.labelle@ieee.org]

Boy Scout Jamboree – *Ralph Russell*

The IEEE, The Institute of Electrical and Electronics Engineers, Inc., will be sponsoring the **Electronics Merit Badge Booth** at the 2005 National Scout Jamboree. The 2005 National Scout Jamboree starts 25 July 2005 and ends 3 August 2005. Over 40,000 scouts and leaders are expected to attend. The Jamboree will be held at Fort A. P. Hill in Caroline County, VA.

The IEEE emeritbadges.org program has developed hands-on electricity and electronics instructional material based on the Boy Scouts merit badge requirements. Instructional material for computer education is being developed. Any student, boy or girl can use the program to enhance technical literacy and learn more about viable engineering and other technical career options. Al Mouton from Bastrop, TX designed the instructional material and electronics kit.

The Missions Statement of emeritbadges.org is: “Mission to provide a global non-discriminatory pre-college technology education program for boys and girls.”

1. “We need 9-volt batteries for the hands-on kits that the scouts will be building. The IEEE emeritbadges.org Project greatly appreciates any help that you can provide. We need 1,000 alkaline 9-volt batteries by 1 May 2005. My thought was to have "battery drives" at the local meetings and ask members to bring a couple of batteries to the next few meetings. This will help us stretch our budget.
2. Volunteers Needed for 2005 IEEE National Scout Jamboree Electronics Merit Badge Booth - Hundreds of volunteers are needed for the 2005 IEEE National Scout Jamboree Electronics Merit Badge booth. These part-time volunteers are needed to serve for at least two days at the Jamboree, 25 July 2005 – 3 August 2005 as Assistant Instructors. Volunteers can sign up for this project at <http://www.emeritbadges.org> starting in early September 2004.

Please let me know if you have any questions.

Thanks,
Ralph
Ralph W. Russell, II
Project Manager
IEEE "emeritbadges.org" Project
emeritbadges@ieee.org

Brain Teaser Challenge Solution *by Butch Shadwel*

August 2004

Last time I was discussing a special TES device employing an “infrared photo-detector, or QWIP. . . ., we illuminated it with an IR LED at 1 meter distance, with the sensor in the center and perpendicular to the transmission axis of the LED. Our QWIP has an area of 0.1 cm² and the LED emits 20 mw/Sr. With a photo-responsivity at this wavelength of 0.6 A/W, what current should we see from this detector during this test?"

This problem is really a pretty simple matter of calculating the number of steradians subtended by the area of the receiver and then multiplying that figure times the emitter output power per steradian and then the receiver responsivity.

So to calculate the steradians on the receiver we take the distance in cm and square it, which gives us 10,000 cm². Then this figure is divided into the area of the receiver, yielding a solid angle of 1x10⁻⁵ steradians. This figure times the output power per steradian tells us that the receiver will be exposed to 2x10⁻⁷watts of IR illumination. The final step is to apply the receiver photo-responsivity value, which tells that the receiver current in this case will be 1.2x10⁻⁷ amps. But I bet you already knew that.

September 2004

Have you ever really considered the importance of toes? I have recently had occasion to visit a podiatrist and he went on at some length about how I had some messed up toes. I would never have given them a second thought if this medical genius hadn't decided to give me an emotional trauma that I may never get over. If your toes are healthy and normal, you should thank your lucky stars. Believe me, the heartbreak and embarrassment one can experience when forced to wear flip-flops is not for the faint of heart. You find yourself watching everyone's eyes to see if they are glancing downward excessively. And you know that if they drop something, it can only be a ruse to get a closer look at your physical deformity.

I have to go back on Tuesday to see about getting orthotics fitted. I suspect they are of little value, but you like to humor these people. I noticed on my last visit, the doctor had his assistant take a series of xrays with their own special foot xray machine. In an

xray tube the xrays are produced by bombarding a metal plate with an electron beam. If the assistant controls the xray flux density by setting the current of the beam, who can tell me what happens when she adjusts the voltage? I'll let you know how the orthotics workout in a future column.

Reply to Butch Shadwell 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.

IEEE Events and Announcements

2004 8th IEEE International Symposium on Wearable Computers (ISWC)

ISWC 2004, the eighth annual IEEE International Symposium on Wearable Computers, will bring together researchers, product vendors, fashion designers, textile manufacturers, users, and all other interested parties to share information and advances in wearable computing. We invite you to attend ISWC 2004 and submit to one or more of the following categories: papers, posters, demonstrations, tutorials, and exhibits.

ISWC 2004 will be held from October 31 through November 3 in Arlington, VA (near Washington, D.C.). It will be co-located with the [Third IEEE and ACM International Symposium on Augmented Reality and Mixed Reality](#) (November 2 - 5) to bring together the wearable and MR/AR communities.

<http://www.cc.gatech.edu/ccg/iswc04/>

2004 8th International Symposium on Mixed and Augmented Reality (ISMAR)

The International Symposium on Mixed and Augmented Reality is the premier forum in the field. A series of [independent conferences](#) on Augmented Reality and Mixed Reality started in 1999, and has led to a joint symposium in 2002. This year we are proud to present the third installment of the series, the 3rd IEEE and ACM International Symposium on Mixed and Augmented Reality (ISMAR04).

The symposium will be held from Nov 2-5, 2004, in Arlington, VA (near Washington, DC). It will be co-located with the [8th IEEE International Symposium on Wearable Computers](#), ISWC04 (Oct 31-Nov 3, 2004), to bring together the MR/AR and wearables communities. We invite you all to participate in this great event for the exchange of new ideas in this exciting field!

<http://www.ismar04.org/>

IEEE Southeast Conference 2005 (SEC 2005)

Ft. Lauderdale, Florida, April 8-10, 2005

<http://sec05.nova.edu/>

*** Call for Papers (Technical Program/Proceedings)***

The SoutheastCon 2005 Program Committee invites prospective authors to submit original papers on all aspects of engineering, science, and technology of current interest. Papers must not have been published or presented elsewhere. Both full-length refereed papers and abstracts of unrefereed papers are solicited. The conference's Technical Program is divided into 10 tracks:

- Electrical Engineering (1 & 2) - General Engineering
- Communication & Telecommunications - Networking & Distributed Systems
- Information Systems (General) - Information Systems (Database & ERP)
- Mobile Devices & Communications - Computing
- Education

List of tracks, potential topics, and track chair(s) is available via:

http://sec05.nova.edu/technical_program_track_list.htm

IEEE Employment & Career Services

The IEEE has a wealth of resources available to members to assist in employment, career planning, and professional development. We have compiled a short list of places that you, as an IEEE member, can go for these services.

Career Navigator

IEEE-USA has created the Career Navigator website which has employment assistance information, entrepreneurs' resources, information on conferences and workshops, as well as links to material that can be used for local section meetings and workshops on career development. It also provides links to the IEEE Job Site, and to the Employment & Career Strategies online discussion forum, where a variety of topics related to careers and employment issues can be freely exchanged with other members.

<http://ieeusa.org/careers/default.asp>

IEEE Job Site

The IEEE Job Site is the official IEEE members site to search for employment opportunities throughout the country. You can create a profile of your ideal job and update it anytime. Jobs matching the profile can be viewed immediately, or automatically sent via email.

<http://careers.ieee.org/index.html>

Employment & Career Strategies Forum

For discussion, information, and a place to bounce ideas off other members, the Employment and Career Strategies Forum is always available 24/7. Join in a discussion topic, or start your own. <https://www.ieeecommunities.org/ecs>

PACE Network

The Professional Activities Committees for Engineers (PACE) is a grassroots network of IEEE volunteers and committees organized at the section and chapter level in the United States with support from their respective regions and the IEEE-USA. The PACE Network promotes the professional interests of IEEE's U.S. members and provides a mechanism for communication of members' views on their professional needs. <http://ieeeyusa.org/pace/>

Region 3 Employment Page

Your region has established a local employment page to help members within Region 3. This page 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 in Region 3. <http://www.ieee.org/r3jobs>

Reduced Member Dues

If you are unemployed through involuntary termination and actively seeking employment, or if your income has fallen below certain levels, you can request a 50% reduction in your IEEE and society dues/assessments (including publications). Contact IEEE Member Services at 1-800-678-IEEE for details.

Your Local Section

Often the most important but overlooked employment resource is you own local Section. At your Section, you will meet engineers from other companies in your own back yard. Become a part of the local IEEE Network and be in touch and be prepared.

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

For more information on these or other topics related to employment and careers, please contact your Region 3 representative to the IEEE-USA Employment & Career Services Committee:


David Macchiarolo

d.macchiarolo@ieee.org

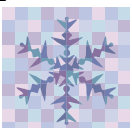

October 2004 Calendar of Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4	5 <i>ECHR EXCOM</i>	6	7	8	9
10	11 <i>Columbus Day</i>	12 <i>PEC</i>	13 <i>'Technology For Life' Conference</i>	14	15	16
17	18	19	20 <i>ASCE / VSPE / ECHR Luncheon</i>	21 <i>IEEE HR & INCOSE-HR Joint Meeting</i>	22	23 <i>Girl Scout Patch Day</i>
24	25	26	27	28	29	30
31 <i>Halloween</i>						

November 2004 Calendar of Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1	2 <i>Election Day</i>	3 <i>ECHR EXCOM</i>	4	5	6
7	8	9 <i>PEC</i>	10	11 <i>Veterans Day</i>	12	13 <i>SWE, NSBE, IEEE PDS</i>
14	15	16	17	18 <i>IEEE HR Mtg</i> <i>INCOSEBOD / Chp Mtg</i>	19	20
21	22	23	24	25 	26	27
28	29	30				

December 2004 Calendar of Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 <i>ECHR EXCOM</i>	2	3	4
5	6	7	8 <i>Hanukkah</i>	9	10	11
12	13	14 <i>PEC</i>	15	16	17	18
19	20	21 	22	23	24	25 
26 <i>Kwanzaa</i>	27	28	29	30	31 <i>New Years Eve</i>	

GIRL SCOUTS PATCH DAY



Yes, it's that time of year again, when we put on our highly successful Girl Scout Patch Day! I am soliciting your help to make this year's event one to remember for approx 70 young ladies (4th-6th grade). We plan to offer eight stations. Last year we offered the following: Electrical Circuits, Non-Point Pollution Model, Robots and Gears, Buoyancy/Density, Human Computer, Construction Materials, 3D/Engineering Drawing, Bridges/Structural Design, Principles of Flight, and Wind Tunnel Operations. A continental breakfast and lunch for all volunteers will be provided. YOUR HELP IS NEEDED and much appreciated.

Date: Saturday, October 23, 2004
Times: Check-in: 9:30 a.m. - 10 a.m.
Program: 10 a.m. – 3:00 p.m.
Location: Newport News Aviation Academy (old Patrick Henry Airport terminal)

IF YOU'E INTERESTED IN HELPING, PLEASE CONTACT MARY PERKINSON @ Mary.Perkinson@ngc.com or 380-4963 by OCTOBER 1st, 2004

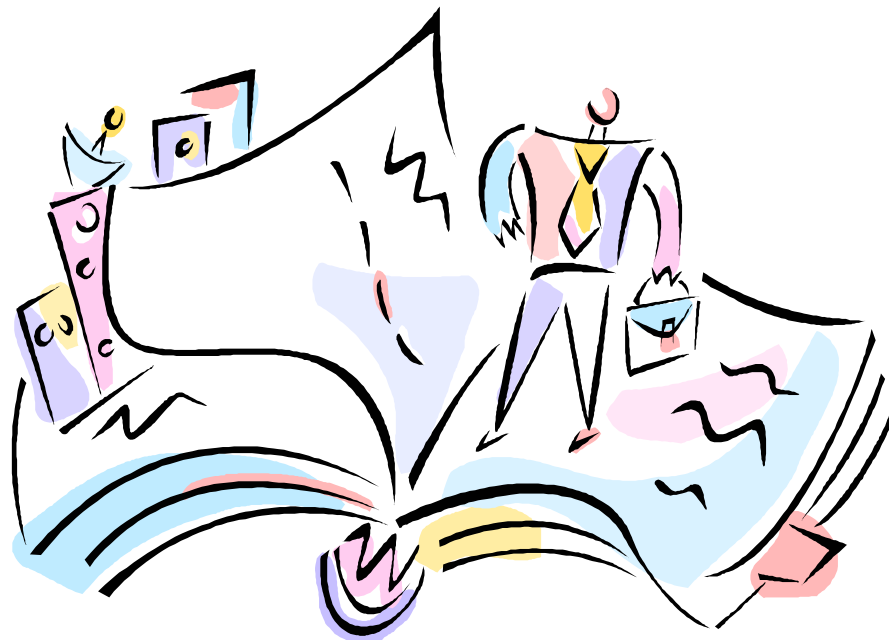
PROFESSIONAL DEVELOPMENT SYMPOSIUM

SATURDAY, NOVEMBER 13, 2004

ODU PENINSULA CENTER

8:30 AM - 2:00 PM

SPONSORED BY: SWE, NSBE, & IEEE



WORKSHOPS

1 – CAREER BUILDING

2 – TEAM BUILDING

3 – LEADERSHIP

4 – PROJECT MANAGEMENT

5 – ENTREPRENEURSHIP

6 – COMMUNICATION

BREAKFAST EXCLUSIVELY SPONSORED BY PANERA BREAD

LUNCH PROVIDED BY IEEE, NSBE, & SWE

COST:

IEEE, NSBE, SWE MEMBERS & STUDENTS: \$10 UNTIL NOVEMBER 1

NON-MEMBERS: \$20 ALL AT THE DOOR: \$20

RETURN BY November 1, 2004

To: SWE-HR, 42 CREEKSIDE DR, PORTSMOUTH, VA 23703

NAME _____

PHONE NUMBER _____

EMAIL _____

WORKSHOP INTEREST (PLEASE CIRCLE): 1 OR 2 AND 3 OR 4 AND 5 OR 6

ORGANIZATION/AFFILIATION _____

AMT PAID _____

PLEASE MAKE CHECKS PAYABLE TO: SWE-HR

Professional Development Symposium

NSBE, IEEE & SWE are combining resources to sponsor a Professional Development Symposium. The theme is Leadership with a focus on Project Management.

This intense, knowledge-filled symposium will be held Saturday, November 13 from 8:30 am until 2:00 pm at the ODU Peninsula Center, in Hampton. It is designed for the busy engineering professional ready for the next step in his/her career. Topics to be covered are Project Management Certifications, Team Building, Career Building, Effective Communication, the Story of a PE Entrepreneur, and Leadership. A collection of Professional Development books will be available for your browsing during the event. Come out to learn from some of the leaders and experts in our local community about ways to improve your professional career.

Speakers include Dr. Runte, President of ODU; Ms. Mary Lou Mortimer, President of NRW Engineering, P.C.; Dr. Alexis Fink, BASF Corporation; Mr. Dave Walters, Vice President of Lee Group Recruiting; Ms. Kelley DuBois, Microsoft Corporation; Mr. Kenny Rogers, Northrop Grumman Newport News; Mr. Alan Sutton, President of Hampton Roads PMI Chapter.

The cost is \$20. \$10 for members of SWE, IEEE, NSBE and students who register by November 1, 2004. All registration at the door is \$20.

Continental Breakfast exclusively sponsored by Panera Bread.
Lunch will be provided by SWE, NSBE and IEEE.

Contact: Terri Mills 757-688-6047

DIRECTIONS TO ODU PENINSULA CENTER:

From Richmond Area

Take I-64 East to Exit 261B (Hampton Roads Center Parkway East). Exit at Magruder Blvd. At the stoplight, turn left onto Magruder (134 North). At the first traffic light past the Parkway interchange, turn left onto Butler Farm Road. The Peninsula Center is located approximately $\frac{3}{4}$ mile on the right in the Peninsula Workforce Development Center, just before the TNCC campus. The Peninsula Center is on the second floor.

From Norfolk Area

Take I-64 West through the Hampton Roads Bridge Tunnel to Exit 262B (Magruder/ NASA/Poquoson Exit). Stay in the left lane on Magruder. At the third traffic light, turn left onto Butler Farm Road. The Peninsula Center is located approximately $\frac{3}{4}$ mile on the right in the Peninsula Workforce Development Center, just before the TNCC campus. The Peninsula Center is on the second floor.

Reserve The Date For:

ASNE DAY 2005

WHEN:

**Tuesday, April 26, 2005
Wednesday, April 27, 2005**

**HISTORICAL
EXPERIENCE:**

**2000 + Attendees, Guest Speakers,
150 + Exhibitors, Panel Discussions
and Technical Paper Presentations**

WHERE:

**Pavilion Convention Center
Virginia Beach, Virginia**

POC:

**Exhibits - Megan Sinesiou
msinesiou@navalengineers.org**

**Information - Kurt Nelson
knelson@qedsysinc.com**

**Naval Engineering for
Joint & Coalition
Rapid Maritime Response**

