

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

Volume 1 – No. 5

May 2004

## "Family Fun Day"

Speaker: Spirit of Norfolk Tour guide

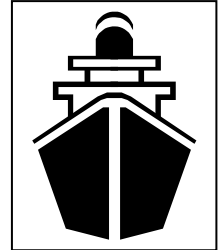
**Date/Time:** Saturday, May 15, 2004 at 11:00 AM

**Location:** Spirit of Norfolk **757.627.7771**

The Otter Berth next to Waterside Mall

Waterside Drive, Norfolk, VA 23510

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



This is a reminder and an invitation regarding the Spirit of Norfolk harbor cruise that we have scheduled on May 15 for our annual Family Meeting.

April 15 was the deadline for us to submit our headcount to Spirit Cruises to reserve our places. We had a very good count of RSVP's up to that point, but since our experience is that a number of members will always want to sign up at the last minute, I reserved nine (9) more places than our RSVP's had claimed. So if the recent beautiful weather has made a harbor cruise with kindred spirits seem more inviting than you first thought, you are in luck. We have room for you and your family and/or guests.

Here are the details: The Spirit of Norfolk boards from Otter Berth, Waterside, at 11:00 AM Saturday, May 15, and casts off at 11:30. The price is \$20 per person, which includes lunch on board. Our IEEE party will all be seated together. There is also a cash bar aboard (extra \$). The cruise lasts two hours, returning to Waterside at 1:30. Parking is available in the Norfolk parking garage across Waterside Drive from Waterside Mall (and at other places nearby).

### Directions to Spirit of Norfolk

**From Richmond, Williamsburg, Yorktown, Newport News or Hampton:**

Take Interstate 64 East to Norfolk.

**In Norfolk:**

1. Take the 264 West exit. This exit sign will read, "Downtown Norfolk, Portsmouth."
2. Follow Interstate 264 West, staying to the left. This will take you directly onto Waterside Drive.
3. Once you've reached Waterside Drive, you will be able to see the Spirit of Norfolk docked 50 yards past the Waterside Mall.

**From Virginia Beach:**

1. Take Expressway 44 West toward Norfolk. (This will become Interstate 264.)
2. Follow 264 West, staying to the left. (This will take you directly onto Waterside Drive.)
3. The Spirit of Norfolk is docked 50 yards past the Waterside Mall on the left.

**Reservations:** Please forward RSVP to Dr. Robert Dawes [757-621-6284 or [dawes@ieee.org](mailto:dawes@ieee.org)] early with your meal choice or if you have questions about the meeting..

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

### *Inside this Open Channel*

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## Letter from the Chair

Dear Colleagues,

I wanted to use this letter to recap some of the events that took place at the annual SouthEastCon in Greensboro this year. Being new to the Section Chair position, this was the first event of this type that I had the privilege to attend. I wish that I would have had the opportunity to attend an event like this earlier in my service to the Section because of the amount of knowledge pertaining to helping the Section that I gained. I would briefly like to tell you about some of these things. The topics discussed included membership development, communications and professional activities.

Some universal problems for the sections represented at SouthEastCon are meeting attendance and declining membership. One of the causes suggested for these problems was that members lack knowledge of the benefits of membership. Related to this is the lack of support for membership by industry. Attendees stated that when they've asked fellow Electrical Engineers if they are members, the response has been "what good is it to them?" Many answers to this question were discussed but the most significant were the ability to network with other professionals and to stay current with new technologies and industry trends.

The ability to network is very important and valuable resource for career advancement and/or employment opportunities. Some of the sections represented have seen huge layoffs and it was discussed that most jobs are not always printed in the newspaper or posted on the internet. To this end, it was discussed that there needs to be more of an effort to activate senior members of industry in order to encourage subordinates to participate. Senior members of industry are needed to provide a resource and reference for open positions.

I plan to use some time during the summer to identify and contact individuals in the area that hold positions of authority in companies that employ significant numbers of engineers with the goal of getting their participation in the section's activities.

Congratulations to Hampton U. for placing in the top ten (6<sup>th</sup> out of 33) in the hardware competition at SouthEastCon.

I hope everyone is planning to take the cruise on the 15<sup>th</sup> has an enjoyable time and I wish everyone a happy and safe summer.

Sincerely,

*Timothy R. Gavin, P.E.*

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## Student Activities, Old Dominion University – Genevieve Hankins

In March, ODU IEEE traveled to Greensboro, NC for Souteastcon 2004. We participated in the Hardware Competition, Student Paper Contest, T-Shirt Design Contest and the Webpage competition. The hardware team, Scott Hodgin, Ming Zhang, Ryan Messall, Jayson Humrich and Jaime Zahorian, experienced a computer failure two days before competition which required extensive repairs. However, they were able to order and replace the part in time to compete. Their efforts were noteworthy and they placed 9<sup>th</sup> out of 31 competing teams. In the Student Paper Contest, Mennatoallah Youssef and I received third place for our paper entitled “Electromagnetic Propagation Prediction for Wireless Networks inside Aircraft Cabins.” Our T-Shirt Design “Electrifying the Future” also received recognition, placing third as well.

In April, we attended the council of student organizations meeting hosted by Interim Dean Oktay Baysal. The focus of this meeting was to encourage engineering student organizations to plan outreach activities with local high schools. The organizations were first asked to adopt several schools. Currently ODU IEEE has adopted five schools including: Churchland High School, Kempsville High School, Menchville High School, Ocean Lakes High School, and Western Branch High School. Essentially, we will act as ambassadors for the college of engineering by distributing information and advertising events.

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## 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>.

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## IEEE Events and Announcements

### Technology for Life - North Carolina Symposium on Biotechnology and Bioinformatics

The Eastern North Carolina Section of the Institute of Electrical and Electronics Engineers (IEEE) is hosting a conference, ‘Technology For Life’: North Carolina Symposium on Biotechnology and Bioinformatics, to be held at the North Carolina Biotechnology Center on Alexander Drive in Research Triangle Park, North Carolina, from October 13 to October 15, 2004. The purpose of this regional conference is to enable North Carolina-based scientists, scholars, and engineers to present their leading-edge research in the areas of bioinformatics, telemedicine, and biomedical engineering before a national audience, and to enable IEEE members and students to explore opportunities for professional development in these fields. More information can be found at the conference web site:

<http://ewh.ieee.org/cmte/tech4life/>

### 2004 IEEE SOI Conference

This annual meeting of engineers and scientists provides a forum for open discussion in all areas of silicon-on-insulator technologies and their applications. The conference is being held at the Francis Marion Hotel, Charleston, SC October 4<sup>th</sup> – 7<sup>th</sup>, 2004.

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

### 2004 8<sup>th</sup> 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 8<sup>th</sup> 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/>

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## Brain Teaser Challenge Solution by Butch Shadwel

April 2004

I received several correct responses to the BTC last month. I know some newsletters will publish it later, so I may hear from more of you. As you recall the subject was mermaids and deserted islands; "After a storm we found a transistor radio kit washed up on shore. The schematic was there but we couldn't recall the IF amplifier frequency for an AM band super heterodyne receiver. What is the beat frequency that is amplified in the most common form of this kind of radio receiver?"

Of course the correct IF frequency for most AM radios is 455kHz. Recently some manufacturers have changed the design so that both the AM and the FM tuners put out the same IF frequency of 10.7 MHz. This way you only need one IF strip, though the signal is demodulated in a different fashion at the end. One of my more astute readers felt compelled to point out that in some modern receivers there is no IF amplifier at all as they use a coherent demodulation scheme, using a local oscillator that is the same frequency and in phase with the signal carrier. But I bet you already knew that.

May 2004

I've been on a personal war with trans-fats. These are lipid compounds that seem to be at the heart of many health hazards due to our diet. My wife tries to keep me up to date. They've been talking about requiring all food manufacturers to put trans-fat data on the wrappers so conscientious shoppers may gauge just how much of this stuff they want in their diets.

Keeping track of what's good for you and what's bad for you can be a daunting task. It occurred to me that I might be able to apply a little science and technology to make the problem a little simpler.

I came up with the idea for a fat detector. The design involved measuring the motion of charged particles due to electrostatic force. Keeping in mind that the repulsion force between two like charges in free space follows an inverse square law, how would you describe the repulsive force for a tiny charged object in close proximity to a large metal plate of like charge?

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

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## IEEE-USA Today's Engineer (April 2004)

### Backscatter: The Collyers and the Web

Estimating the number of pages being added daily to the Internet to be between five and 10 million, are we becoming swamped with information we can't process? How can we find good content without getting "caught in the Web?"

<http://www.todaysengineer.org/Apr04/backscatter.asp>

### Are Career Events Worth Attending?

While more and more jobseekers use the Internet to submit their résumés to prospective employers, career events such as job fairs still have their place in the job-seeking market. What can you do to make the most of job fairs and get your foot in the door — in person?

<http://www.todaysengineer.org/Apr04/career.asp>

### Connecting the Engineering World

National Engineers Week 2004 co-chairs the Fluor Corporation and IEEE-USA launched an international program designed to expand minds through interactive, "live" global teleconferences and web-based forums. What did participants discuss, and how can you get involved?

<http://www.todaysengineer.org/Apr04/connecting.asp>

### Hybrid Vehicles Spell Savings For Those Who Pay the Price

Hybrid vehicles are growing in popularity, but questions remain about their general acceptance and their overall impact on tighter government regulations for fuel economy and low emissions.

<http://www.todaysengineer.org/Apr04/hybrid.asp>

### Also in this issue:

- Engineering and Pop Culture: Galvani and the Story of Frankenstein
- Capitol Shavings: Social Security
- World Bytes: Smart in Any Language

To read TE, go to: <http://www.todaysengineer.org>

### May 2004 Calendar of Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9 <i>Mothers Day</i>	10	11	12	13	14	15 <i>IEEE Meeting – Spirit of Norfolk</i>
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31 <i>Memorial Day</i>					

### June 2004 Calendar of Events

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30			