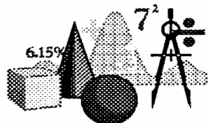




IEEE

# SPARKS

IEEE Daytona Section Newsletter  
November 2011



## FROM THE HIGH CHAIR

This is the last newsletter of 2011. I would like to wish everyone a Merry Christmas and Happy 2012. Also, I want to thank Daytona section officers for their diligent work this year, and for their great support to me as I serve as the section chairman for the first time.

2011 has been a good year for the Daytona section, especially in terms of our membership development. The section achieved a positive net growth in Higher Grade (non-transferring) members during the 2011 membership recruitment cycle completed in August. As a result, we qualify for the IEEE-USA 2011 Membership Development Incentive. Given the current economic and employment climate, this is a noteworthy achievement that only a small number of sections are able to make. Meanwhile, we had a huge growth in student membership this year, and Bethune-Cookman University officially established their student branch. Also, a student branch technical chapter in computer science and an HKN student chapter at ERAU are going through the planning phases and expected to be established in 2012. We are in great shape!

On October 22 and 23, five teams from ERAU IEEE student branch participated in the 24-hour IEEEExtreme programming contest. Our student branch president James Gregoire and faculty advisor Dr. Barott devoted much time organizing and coordinating the event. The competition took place on ERAU campus and was proctored by several faculty members. Around the world, 1500 teams competed, and two ERAU teams placed in the top 200. Nice job!

On October 27, Dr. Brad Factor from Halifax Health gave an intriguing talk on stereotactic radiosurgery during our monthly meeting. As a

non-invasive procedure, radiosurgery uses beams of radiation to destroy the target tissue, providing an effective alternative to the conventional brain surgery.

Election for Daytona section's executive committee members in 2012 will be held on Nov. 29 during this year's last monthly meeting. You are welcome to volunteer or make nominations for the positions of Chairman, Vice Chairman, Secretary and Treasurer (other officers are appointed). In particular, we need nominations for the Treasurer, because we do not have any candidate currently. To make a nomination, please contact one of our nominating committee members: Al Jusko (Chair), Ron Gedney, and Dr. Jianhua Liu.

As a reminder, the paper submission deadline for the upcoming IEEE Region 3 SouthEastCon is December 9. The conference will be held in Orlando next year in March, and you are highly encouraged to participate. Detailed conference information is available at:

<http://www.southeastcon2012.org/>.

Last but not the least, please remember to renew your IEEE membership for 2012. Thanks for being part of the world's largest and most prestigious engineering professional organization!

Thomas Yang, Ph.D.

## NOVEMBER PROGRAM

### The History of Navigation - Part 2

Navigators knew the world was round and could tell fairly accurately how far North or South they were, but longitude was hard to estimate. They used a very rough speed estimate but currents and wind effects could not be accurately measured.

The invention of the marine chronometer changed all that. By measuring the sun's elevation, navigators could find "local noon" and from that they could calculate how far East of West they were from a reference longitude. A small correction, called the "equation of time" was needed to account for the elliptical nature of the earth's orbit around the sun. Distant stars can also be used to find longitude.

This talk describes the marine chronometer and its invention and shows how time is used in celestial navigation.

### **OUR SPEAKER**

Tracy Wichmann received his Science Bachelor in Physics from MIT. His education also included the study of Servomechanisms at Ohio State's Electrical Engineering Department and Astrophysics and Statistics and System Engineering at UCLA. He is an Adjunct Professor at Embry Riddle Aeronautical University and consultant for computer programming. Over the years he had held positions as Program Manager, Senior Research Scientist, Research Engineer in such fields as electronic warfare, space shuttle avionics, air traffic control with such companies as Hughes Aircraft, Teledyne Systems, Litton Industries, and the U.S. Air Force. He has published over 50 papers & publications and has a patent on a blood pressure measuring device. He has been past Chairman and Treasurer of the Daytona Section and currently serves as our Vice Chairman. He is also a member of the Southcon Board of Directors.

### **TALES FROM THE OLD PROFESSOR**

#### **On Dreaming of a White Christmas**

It was Christmas Eve and there was a certain nip in the Northern New Jersey air and a real possibility of a white Christmas. I was playing tuba in a brass quintet which I did on Christmas Eve and this year our quintet was playing a midnight mass. It was an elaborate program of music that we had worked on for months, which included, in addition to our quintet, tympani, a big church choir and the church's magnificent pipe organ. All the music went beautifully and we were pleased with the performance so far. The choir loft was high above the nave of the church and above the choir was the organ with its largest pipes reaching to the very roof of the church. The loft was so high

above the congregation; we could relax a bit during the Christmas homily and rest before the final climax of the evening with the performance of "Ode to Joy" from Beethoven's ninth symphony.

Outside, completely unknown to everyone in the church, the dream of a white Christmas was quickly becoming a reality. A snow shower had started after the final parishioner entered the church and a serious snow storm was brewing. None of this was visible to the congregation through the dark, stained-glass windows.

It is important that a further description of the organ be presented as this "King of Instruments" plays an important role in my story. The pipes of the organ were located in its own loft above the choir. Outside of the organ chamber wall was the bell tower. A door went from the pipe chamber to a room in the tower just below the bells where the blower and other apparatus required for the organ were located. A ladder led up to a trapdoor and the bells at the very top of the tower.

It just so happened that a few days before this Christmas Eve the bells were repaired for a minor malady and the mechanic had neglected to close the trapdoor. As the snows swirled around the bell tower, quite a bit of snow was falling through the open trapdoor and made a large pile next to the air inlet for the pipe organ blower.

I am sure the perceptive reader can now guess much of the rest of this story but to confirm that let me describe the finale of the evening mass.

At the end of the homily, a few amen's were sung accompanied by the organ. One choir member noticed there seemed to be a fine mist falling, but thought nothing further of it as it lasted only for a short while.

It was now time for the grand finale with organ, brass, tympani and choir and the performance of the beautiful "Ode to Joy". After a few measures of an introduction, the choir and organ began the verse; Freude!, Freude! .... Joy! Joy! Now, more than one choir member noticed that there seemed to be a mist falling from above. The organist directed his attention to the pages of music spread before him and his assistant turned the pages as needed and pulled more stops of the organ.

As each stop was pulled more pipes began to speak in a great crescendo and it was becoming apparent to the choir what the mist, now flakey white, was.

The organist waved to the choir from behind the organ console signifying their entrance and some

choir members waved back, some pointing upwards. With more stops from the organ, the crescendo grew with brass and tympani and a full scale blizzard.

Some of the snow began to fall on the congregation and a few turned in their seats and looked up at the choir loft. The worshipers, so impressed with what they saw, stood up for a better view, and before long, the entire congregation was standing in awe of the spectacle. The final chord caused a swirl of snow so great that the organist could not help but notice the precipitation. He lifted his head from the music and saw choir members covered with snow and some using their music as a hat. Shocked, he stood up on the pedal board and played no less than six of the largest pipes which rumbled like thunder and caused one final dousing of snow which was followed by spirited applause from the congregation.

Beethoven would have been pleased.  
Al Helfrick, Ph.D.

#### CALENDER OF EVENTS

**Jan. 30<sup>th</sup> to Feb. 3<sup>rd</sup> of 2012-** the IEEE Industry Application Society (IAS) will hold its annual Electrical Safety Workshop in Daytona Beach  
**Southeast Con-** Orlando 2012, Jacksonville 2013

#### EDITORS NOTES

The **SPARKS** newsletter is also available on our website. The website address is shown in the Section information box to the right.

Our neighboring Sections in Melbourne and Orlando also sponsor activities and meetings that also may be of interest to our members. We encourage you to visit their websites.

#### Region 3 website

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

#### Melbourne Section website

[www.ieeemelbourne.org](http://www.ieeemelbourne.org)

#### Orlando Section website

[www.ieee.org/orlando](http://www.ieee.org/orlando)

#### MEETING DATES

Note that this months meeting will be on **Tuesday**  
**November 29<sup>th</sup>** due to Thanksgiving.

The January 2012 meeting will take place on  
Thursday January 19<sup>th</sup>.

#### 2011 SECTION OFFICERS

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The website address for the Daytona Section is:

<http://www.ieee.org/go/daytona>

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# NOVEMBER 2011 MEETING

**Tuesday November 29th** at the Halifax River Yacht Club  
331 South Beach Street, Daytona Beach, Florida 32114  
Just south of the Fire Station at the corner of Beach and Orange

## AGENDA

6:30 PM Cocktails  
7:00 PM Dinner  
8:00 PM Program

**OUR SPEAKER** – Tracy Wichmann

**TOPIC**– History of Navigation – Part 2

## November Dinner Menu

Beef Tips w/mushrooms & roasted potatoes	[All entrees served with
Chicken Parmesan w/pasta and vegetables	[rolls and butter,
Broiled Tilapia w/roasted potatoes and vegetables	[house salad, coffee/tea

**Unless noted, dinner entrées are \$18.00 each. Students \$10.00 each**  
**A Veggie plate is available on request for \$10**

**Please contact Al Jusko with your dinner selections or for program information. Dinner selections must be in by Monday the 28<sup>th</sup> at noon so the club has time to order and prepare**

Allan Jusko                      SPARKS Editor                      386-671-3706                      a.jusko@ieee.org

**IMPORTANT: If you make dinner reservations and are unable to attend, call at least 12 hours prior to the meeting to cancel. The Daytona Section is charged for all dinners ordered.**

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