

# SPARKS

Daytona Section Newsletter  
OCTOBER 2013



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## OCTOBER 2013 MEETING

**Thursday** October 24th at the Halifax River Yacht Club  
331 South Beach Street, Daytona Beach, Florida 32114

**PRESENTATION TOPIC** – Reverse Engineering Beer

**OUR SPEAKER** – Ann-Marie Bays, owner of Craft Beverage Sales and Marketing

**MEETING NOTE** – Our meeting schedule has been changed.  
See the Chairman's Report and last page of the newsletter for details.

### CHAIRMAN'S REPORT

Our first meeting of the season was well worth attending. Dr. Keith Garfield revealed a very useful concept of computer literacy. It is 3 dimensional. He had a diagram in which the three axes were labeled. The axes most of us can claim proficiency on is the programming dimension starting with simple computer control through various programming languages to writing in machine code. The other two axes are quite orthogonal: knowledge of platforms and knowledge of applications. The focus of his talk was on learning and the 3D concept really clarified it.

At that same meeting we all agreed to move our meetings up one hour. It doesn't matter much to us retired folks and it eliminates the wait between the end of the work day and the start of the meeting for those of us who are employed. I, for one, can start drinking any time after 5PM.

Our next meeting should be of particular interest to imbibers, particularly since it will be Oktoberfest. The origin, history and making of beer is much more profound than most of imagine. Our speaker, Ann-Marie Bays, is the owner of Craft Beverage Sales and Marketing, a company that does brand management, marketing and promotion throughout the state of Florida for Craft Breweries and Importers. Our simple brew of today has a rich ancestry. Come to the meeting and learn all about it.

Our last meeting was not well attended. The people there were interesting and learned but too few in number. PLEASE, take a few seconds (you are already on line if you are reading this) and let me know what would induce you to join us at [tracy@alum.mit.edu](mailto:tracy@alum.mit.edu).

*Tracy*

## **SEPTEMBER PROGRAM**

### **Reverse Engineering Beer**

Our talk will be about some of the work of Dr. Pat McGovern, a Biomolecular Archeologist at the University of Pennsylvania Museum. Dr. McGovern proposes the argument that the fermentation of alcoholic beverages played a major role in human evolution and the development of civilization. Over the past two decades, he has pioneered the emerging field of Molecular Archaeology and his endeavors of late have focused on the organic analysis of vessel contents and dyes, particularly Royal Purple, wine, and beer. The work he has done in the reverse engineering of beer found in the tomb of King Midas is responsible for making possible the formulation of the recipe Dogfish Head Brewing uses for their beer called Midas Touch. At the end of our talk we will have the opportunity to sample some of the beers resulting from Dr. McGovern's work.

### **OUR SPEAKER**

Ann-Marie Bays is the owner of Craft Beverage Sales and Marketing, a company that does brand management, marketing and promotion throughout the state of Florida for Craft Breweries and Importers. Her clients include Boulder Beer Company, Southern Tier Brewing, Abita Brewing, Anchor Brewing and Eurobrew Imports. Ann-Marie's beer credentials include work throughout the homebrew community and the local beer culture. She is a Certified Cicerone® as well as a Recognized BJCP™ Beer and Mead Judge with experience judging several competitions most notably Sunshine Challenge, Best Florida Beer Championship and DeLand Craft Beer Festival. She is also an active organizer for the highly successful DeLand Craft Beer Week and DeLand Craft Beer Festival.

Ann-Marie is well versed in classic beer styles, serving procedures and troubleshooting, the history and science of beer, the technical and artistic evaluation of beer, and the finer points of tastings and food pairings.

In addition to her extensive beer knowledge and understanding, Ann-Marie is an accomplished photographer with a degree from the Southeast Center for Photographic Studies with a commercial focus on glass, reflective surface and beverage photography. Ann-Marie also has 12 years of experience running her own company specializing in design and marketing for small businesses.

### **STUDENT CHAPTER NEWS**

The Embry-Riddle Aeronautical University Student Chapter is co-sponsoring a technical meeting with the Daytona Section on Saturday November 2<sup>nd</sup>. All students and members are invited to attend.

### **Abstract**

The main idea of this talk can be expressed by the question: What the newest technology in signal processing allows in a passive radar field? The passive radar is a useful complement to the active radar systems and a perspective ADS-B system (Automatic Dependent Surveillance - Broadcast), two main surveillance means used by Air Traffic Control. In future the air traffic flying above us is going to be monitored by radar systems and ADS-B systems together with a perspective that ADS-B will dominate. But there are still aircrafts which will not cooperate and transmits their precise position in ADS-B.

Today passive radar systems have become matured and are extensively used in the ATC surveillance network. These systems mainly tracks targets which emit electromagnetic waves (PET – Passive Emitter Tracking) but are not capable of detecting and tracking non cooperative targets transmitting nothing at all. The newest passive radar technique, which is now extensively developed, uses 'illuminators of opportunity'. This technique, named Passive Coherent Location (PCL), uses different transmitters on the ground (FM Radio transmitters), in the airspace or eventually in the space (TV-broadcast satellites) to detect targets flying within a specific area. The PCL technique is highly demanding of the computation load and signal processing speed and performance.

The talk will present PCL technique and its basic computational and signal processing schema based on the examples of historical or recent systems.

The presenter will be Dr. Petr Bojda, recently a Visiting Assistant Professor at Embry Riddle Aeronautical University. Dr. Bojda started his career as a technical staff of the Czech Air Force in 1992. He received his Ph.D. degree in Electrical & Electronics Engineering from Military Academy in Brno, the Czech Republic, in 2005. Then he spent more than five years at University of Defense, the successor of the Military Academy, teaching radar systems and avionics.

His research interests include digital processing in the radio navigation and radar systems and especially their implementation into the FPGA devices. In past he participated in various research projects as 2010 – Czech Ministry of Defense (MoD): FUSE - Innovation in data processing and data fusion in modern avionics, 2004 – Czech MoD: Highly evaluated targets (passive radar systems), 2001 – Czech MoD: NAVIS, evaluation of a differential GPS for aircraft landing.

The talk will be held at ERAU, 600 S Clyde Morris Blvd, Daytona Beach, Lehman Building, Rm 170. Time: 12:30 PM- social (choose pizza toppings/subs/sodas/meet and greet), 1:00 PM - Talk, food and questions after. A \$5 "optional donation" is suggested to offset food costs for the group.

Contact Jeanette Barott, Daytona Section Vice Chair at [barottj@erau.edu](mailto:barottj@erau.edu) for information.

## **ANOTHER TALE FROM THE OLD PROFESSOR**

### **ON HOW I BECAME A RADIO AMATEUR**

Like many young boys of my generation, I was a long-time member of the Boy Scouts.

Camping was an important part of Boy Scouting and in addition to the weekend spring and fall "Camporees", I attended a week-long summer camp and was fortunate, in 1960, to attend the "Golden Jubilee Jamboree" in Colorado.

Our local camp was Camp Theodore Roosevelt; a fabulous place for boys to be boys and Teddy, the Rough Rider, himself, would have loved it. We had a lake with boats, fishing, swimming and miles of nature trails including one which was the "wetlands trail".

We must understand that "wetlands" is a nice term for swamp which residents of South Jersey are very familiar. Residents are also familiar with the wildlife of the swamp, muskrats, regular rats, opossums, and mosquitoes the size of sparrows.

Just north of the camp was the New Jersey Turnpike; fortunately with plenty of dense South Jersey piney woods to hide the sights and sounds of the road.

One day during summer camp, while walking back to our troop's campsite on one of the trails through the woods, I could hear the strangest cacophony of sounds. There were beeps and whistles and what sounded like distant voices. I was only 11 years old and this was my first summer camp and I had not experienced anything like this before. There was a side path leading from the trail to the source of the strange sounds.

Around the bend was what appeared to be a normal camp cabin and the noises were definitely coming from that cabin.

There were fat black wires entering this cabin from high in the trees. There were other, thinner wires

stretched between trees. I marveled at how these wires were placed in high trees that had no low branches to climb. Obviously, ingenious people were at work here.

There were three older boy scouts in the cabin and one of them opened the door and invited me in. What a sight! There were all types of radio equipment stacked three high on two old desks. These boxes had more knobs than I had ever seen in one place at one time. The other two scouts were sitting at the desks operating the equipment. One was talking into a big silver microphone and the other was pounding on a brass telegraph key.

Every time the radio operator with the microphone talked, the meters on the box connected to the microphone would move in synchronism with the voice. The same was true of the telegraph operator, except there was a tone every time the key was depressed and the lights would flicker. There was, clearly, something very powerful happening here.

The tones from the telegraph transmission meant nothing to me. I found it fascinating these strange sounds could be interpreted as a message. The voice radio operator had a strange language too, although I could understand some of what he was saying. He had been repeating the letters C and Q for a minute. Soon there was a response to this strange call of C-Q. He told the radio station that responded to his C-Q that his handle was Jim and his QTH was Camp Theodore Roosevelt and that the distant station was coming in "five by nine". It was clear that CQ was a call to anyone who wanted to chat, handle was a name and QTH was your location. I wasn't sure what five by nine meant but the distant operator was happy to hear the report and thanked Jim for passing along the information.

Every day for the rest of the camp week I went to the radio shack and learned a lot more. I even knew some Morse code and was saying 73 instead of good-bye when one of the operators would let me talk on the radio. I was determined that I would have my FCC license before I returned for camp next year.

A house a few blocks from where I lived had a number of antennas hanging from the trees in the back yard and the same big fat black wires entering a second floor window. The day after I returned from summer camp I knocked on the door of the house with the antennas and when a man answered, I asked if he was a radio amateur. "Why yes I am", he said. "Could you help me become a radio amateur?" I asked. "I would be happy to", the man replied and invited me in.

My new mentor did just what I asked. I went to Mr. Steelman's house a couple of nights a week for nearly a month. Mr. Steelman taught me the Morse code by transmitting, first, letters, then words and finally, complete sentences and paragraphs.

At first I had to think about what each combination of dots and dashes were, but later I instinctively wrote down the letters as they were sent.

I learned all about radio things, the funny terms used to describe signals and interference. I learned about keeping a log book to record my radio transmissions. I had my first experience with Federal Regulations as I had to understand the FCC rules to pass the exam.

Finally, the day came that Mr. Steelman felt I was ready. He had to call the FCC district office in Philadelphia and request the examination by mail. A few days later the examination arrived and Mr. Steelman administered the test. He first sent a Morse code message to me and with a very shaky hand, I wrote down the letters as each one was sent. After five minutes of sweating and copying the code, I felt like the wireless operator on the Titanic where life and death was riding on the message. I knew my copied message passed the test because it made sense.

Next was the written test. We opened the sealed envelope that contained the exam. There were 25 questions; all about FCC rules and regulations, simple circuits, antennas, and how to carry on a radio conversation.

I was well prepared and I answered the questions quickly and felt pretty good about my answers. Mr. Steelman looked over my responses and said I passed and he returned the paperwork to the FCC.

In those days, it took the FCC between 6 to 8 weeks to process the examination and assign a radio call sign. I could barely wait. I tried to ease the pain of waiting by getting my radio station in order. Now summer was over and still no radio license.

Finally, the day came. When I arrived home from school, there was an envelope for me from the Federal Communications Commission in Washington, D.C. Boy did I feel important. No one else I knew, including my parents ever got letters from the Federal Communications Commission! I could barely open the envelope. What if it was a notice of failure! Without even tearing it open, I could see through the transparent window of the envelope, just above my name, a radio call sign KN2BLA! I didn't even need to open the envelope to know I had passed!

I could barely wait for Mr. Steelman to come home from work to call him and tell him the big news. He was very pleased to hear the good news and said my call sign was a good one since it was easy to send with Morse code. I never thought of that and I imagined sending KN2BLA with Morse, and it did come out easily.

Mr. Steelman suggested that I come to his house that night and use my new license. I could use his station and he could give me pointers on how to make radio contacts.

Just as soon as I had finished my supper I rode my bicycle the three blocks to Mr. Steelman's house. He had already tuned up his transmitter and all was ready for my first radio contact. My hands shook so badly that I could hardly send. "CQ, CQ, this is KN2BLA". After transmitting, I listened for a reply. There was a station sending on the same frequency it was transmitting and slow and deliberate just like my transmission. Then I recognized my call sign. He was calling me!

Just as soon as my contact finished calling me it was my turn to transmit again. I gave my name, where I was located and how strong his signal was. My hands shook so much I was constantly correcting mistakes. It was now my new friend's turn to provide the same information to me. My hands still shook, but I was able to write Balti..... Although I missed half of what my contact transmitted, it was pretty clear he was in Baltimore, Maryland. That was more than one hundred miles away! My excitement was building. Now I had to decode my new friend's name. Lu.... it must be Luke. I was too embarrassed to admit I did not get his name. Maybe I could pretend I knew it and continue our conversation, but this was my first radio contact and I really wanted to get his name.

Mr. Steelman saw what I had written on the big yellow pad of paper. He said that I got the location correctly but I got her name wrong. Her name was Lucy. Her name? My first contact was a girl?

I was devastated. After all the effort and study to get my radio license and I am talking to a girl? I told Lucy that she was my first radio contact and that I was 12 years old and in the seventh grade. Lucy did not tell me her age but responded that she was a school teacher.

I felt relieved. Lucy was not a girl but a grown lady. That was OK. I made two other contacts that night, one in Pennsylvania and the other in Delaware. My hands hardly shook now and it was the beginning of an exciting time in amateur radio.

The next time I went to Camp Roosevelt, as soon as the tents were pitched, I went to the radio shack and proudly showed the operators my new license. I was invited to sit behind the big silver microphone. "C-Q, C-Q, this is Camp Theodore Roosevelt calling".

Al Helfrick, Ph.D

The following short article on recent developments in Congress was submitted by Russell Harrison, Senior Legislative Representative - Grassroots Activities, IEEE-USA.

### **H-1B Increase on Congress' Agenda**

Legislation has passed the U.S. Senate and is pending in the U.S. House of Representatives that would roughly double the size of the H-1B temporary visa program. If an immigration reform bill passes this year, the H-1B increase will almost certainly be part of the bill unless legislators hear from their voters soon.

The bills are part of Congress' on-going efforts to pass comprehensive immigration reform. While most media attention has focused on issues like amnesty and border security, the legislation would also profoundly change high-skill immigration into the United States.

At the moment, both the House and Senate are supporting legislation that will increase the H-1B visa cap from its current 65,000 visas to around 180,000 visas annually. Along with new and existing exemptions from this cap, the total number of H-1B visas available each year would likely be around 250,000, up from 130,000 now.

The Senate bill (S. 744, which is the big comprehensive immigration bill) also includes a number of useful reforms to the H-1b program. While these don't undo the damage done by a cap increase, they will help. The reforms include:

- Improving the formula for calculating the prevailing wage, so that H-1B wages will be closer, although still less than, American wages
- Requiring most companies to hire American workers before turning to the H-1B
- A ban on most companies using the H-1b to outsource jobs
- Limiting companies to having only 50% of their total U.S. workforce on an H-1B

The House bill (H.R. 2131) includes none of these protections.

Between 2001 and 2012, the United States created, on average, 58,000 new STEM jobs each year. A recent analysis by IEEE Spectrum estimated that there are a total of 277,000 new STEM job vacancies each year, which includes retirees and individuals leaving the STEM workforce.

IEEE-USA opposes any attempt to raise the H-1B visa cap, and supports efforts to protect American and foreign workers from the unintended consequences of this visa program. At the same time, IEEE-USA recognizes that there are many highly skilled and innovative people around the world who were not born in the United States. It is in our country's interest to let some of these people live and work here – but they must be allowed to live and work here as American citizens, not merely temporary workers.

The Senate bill includes a large expansion of the EB green card program, which IEEE-USA supports. The bill would create a new green card for every international student who earns a Masters or PhD in a STEM field in the United States. The House bill includes a more limited, but still very useful, version of this provision.

Problems with the H-1B program have been well documented. The most damning problem with the program is that more than half of the visas last year were used to replace American workers with lower-cost foreign workers. Outsourcing companies received around 55% of the visas. These companies employ tens of thousands of workers in the United States, almost none of whom are Americans.

IEEE-USA encourages everyone who is concerned about expanding the H-1B visa program to send an e-mail to their legislators as soon as possible. This can be done at IEEE-USA's Legislative Action Center ([www.ieeeusa.org/policy](http://www.ieeeusa.org/policy), look in the upper right.) or at [www.house.gov](http://www.house.gov) and [www.senate.gov](http://www.senate.gov).

Anyone having comments or questions can contact Mr. Harrison at:  
IEEE-USA, 2001 L St, NW: Suite 700, Washington, DC 20036, (202) 530-8326

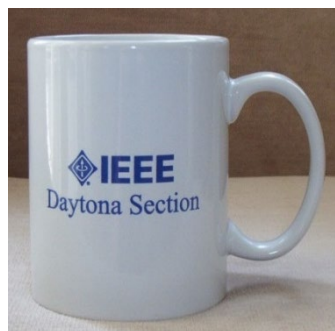


### DAYTONA SECTION SHIRTS

We are pleased to offer Daytona Section polo shirts for our Section members. The shirts are embroidered with the IEEE Logo and DAYTONA SECTION on the left and your name and grade, if desired, on the right. The shirt is a high quality 5 oz, 65/35 poly/cotton pique in Royal Blue with white embroidery. Available in S - 2XL in men's as well as ladies sizes. Price is \$28, including tax, for S-XL size's, 2XL size is \$4 additional.

For more information or to order shirts contact  
Allan Jusko  
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386-671-3706 or [a.jusko@ieee.org](mailto:a.jusko@ieee.org)

Indicate shirt size and name and grade if desired. Shirts must be paid for before ordering, typical turn around time is 2 weeks. Arrangements can be made to pick up shirts or have them shipped to you.



### DAYTONA SECTION COFFEE MUGS

The Daytona Section has available coffee mugs with the IEEE Daytona Section Logo and are available for \$7.00. Purchase one or more to show you support and pride in our Section.

Contact Roger Grubic at 386-441-8958 or [roger\\_grubic@ieee.org](mailto:roger_grubic@ieee.org) for more information.

### EDITORS NOTES

The **SPARKS** newsletter is also available on our website <http://www.ieee.org/go/daytona>

#### 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)

### FUTURE MEETING DATES:

The remaining meeting dates for the 2013-2014 sessions are: Dec 5<sup>th</sup>, Jan 23<sup>rd</sup>, Feb 27<sup>th</sup>, Mar 27<sup>th</sup> and Apr 24<sup>th</sup>.

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# OCTOBER 2013 MEETING

**Thursday** October 24th 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

## \*\*\*NEW TIMES\*\*\*

### AGENDA

5:30 PM Cocktails  
6:00 PM Dinner  
7:00 PM Program

**TOPIC** – Reverse Engineering Beer

**OUR SPEAKER** – Ann-Marie Bays, owner of  
Craft Beverage Sales and Marketing

## Octoberfest Dinner Menu

**Sauerbraten**- Topped with gingersnap gravy, homemade potato pancakes and braised red cabbage with apples

**Chicken Schnitzel**- with vegetable and the potato pancakes

**Blackened Grouper**- Filet topped with a citrus hollandaise and rice

All entrees served with rolls and butter, house salad, coffee and tea

**Unless noted, dinner entrées are \$20.00 each. Students \$10.00 each**

**\*A Veggie plate is available on request for \$10\***

**Please contact Charlie Husbands with your dinner selections or for program information.**

**Selection's must be in by Wednesday the 23<sup>th</sup> at noon so the club has time to order and prepare**

Charlie Husbands                      Treasurer                      386-760-7163                      chusbands@ieee.org

**If you make reservations and are unable to attend, call at least 12 hrs prior to the event to cancel.  
The Section is charged for all dinners ordered, please let us know if your plans change**

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