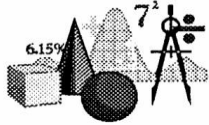




# SPARKS

Daytona Section Newsletter  
October 2016



## OCTOBER SECTION MEETING

Thursday October 27<sup>th</sup> at the Halifax River Yacht Club, 6:00 PM  
331 South Beach Street, Daytona Beach, Florida 32114

### PRESENTATION TOPIC

**MONSTROUS MADMEN: PORTRAYALS OF THE ENGINEER AND POTENTIAL IMPACTS**

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### CHAIR'S REPORT

Attendance at this month's meeting will be mandatory, as the chair is speaking. (Will my editor let that be published?) (ED: Yes he will, abandoning all selective editorial license)



That being said, it's amazing how fast the year is winding down! By the time this goes out, students at Embry-Riddle will be busy preparing for the IEEE eXtreme programming competition, faculty will be putting the finishing touches on their highly polished begs for equipment in the new building, and the rest of us will be going out to buy giant bags of candy that we pretend are for sharing with other people.

My columns seem to get shorter and shorter, but I'm going to close out with a big THANK YOU to all of the volunteers who continue to make our Section, one of the smallest in the IEEE, one of the most active. As always, let us know how we can serve you (and how you want to serve us, of course).

*Jeanette*

## OCTOBER PRESENTATION

### MONSTROUS MADMEN: PORTRAYALS OF THE ENGINEER AND POTENTIAL IMPACTS

Portrayals of the engineer in popular culture have been troubled since before “engineer” was a profession (1850 in the US), or “popular culture” a phrase (1854 according to the OED). Starting with the framework of Mary Shelley’s *Frankenstein* as a book and within subsequent portrayals, and delving back to *Gulliver’s Travels* and up to *Big Bang Theory*, *Firefly*, and, of course, the *Star Trek* universe, representations of the engineer’s role within society as portrayed through the lens of the liberal arts will be explored in a fast-paced, entertaining manner. Underscoring the entertainment, however, is a crucial question: has the ever-widening gap between “us” the engineers and “them” the liberal arts majors resulted in damage to our STEM pipeline—and how can we, the engineers, fix it (given that the entertainment and therefore edutainment industries are predominantly managed by “them”).

### OUR SPEAKER

Jeanette B. Barott is a Senior Member of the Institute of Electrical and Electronic Engineers (IEEE) and the Chair of its Daytona Section. She has degrees in English Literature and in Software Engineering, and is an active advocate of STEAM (science, technology, engineering, arts, and math) education throughout the educational pipeline.

For her day-job, she operates as a combination wet-worker and security blanket for the College of Engineering at Embry-Riddle Aeronautical University’s Daytona Beach campus. Other hobbies include big data analysis, micromanaging large projects, and teaching.

## SEPTEMBER’S PRESENTATION

In a most interesting presentation, Justin Yapp a Ph.D. candidate in Electrical Engineering and Computer Science at ERAU discussed an Unmanned Aerial Vehicle as a Service (UAVaaS).

The objective is to reduce the financial overhead that burdens companies who use UAVs for agriculture, surveillance, emergency response, inspections, survey and real estate. The concept of a cloud-orchestrated rental service for UAVs was presented.

With this concept, companies can become multi-tenant operators in which they can connect to and timeshare UAVs owned by different entities and fly them whenever needed. This enables companies to only pay for the flight time used and data collected which removes the need to purchase UAVs at full price, pay for FAA registration, insurance and trained pilots.



September speaker Justin Yapp presenting with Dr. Keith Garfield (background) providing AV assistance.

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

### **LET'S GIVE A HEARTY BRONX CHEER!!**

In a few weeks a wonderful event will take place; the United States presidential election. The right to vote is an important part of our Constitution but more satisfying is the election will finally be over and we can enjoy radio and television again. Just as soon as the polls close the broadcast media will start transmitting election results, their projections, predictions and speculations ad nauseam. When the last polls close in Hawaii we will finally have a new president. Well; sometimes it takes another couple of weeks as it did in 2000. But the best part of the election is the campaigning can stop for a while.

On Tuesday, 8 November when the election results appear on television and radio, it will mark a historic event. One hundred years and one day before, Lee DeForest broadcast the first election returns via voice radio from his station in the Bronx section of New York City. Election results were transmitted to newspapers via radiotelegraph for a number of years before 1916, but DeForest's voice transmission was meant for public reception; in other words; "broadcast".

DeForest was best known for his invention of the three-element "triode" vacuum tube or "Audion" using DeForest's brand name. The addition of a third element, the grid, to the vacuum tube diode, allowed the tube to be used for amplification. One of DeForest's weaknesses was that even though he invented a significant component for the radio

industry, it was doubtful he knew how it worked. To be fair with Lee, no one really knew all the properties of the electron at the time. But DeForest didn't find as many applications for his invention as one of his neighbors did, barely 2 miles north, in Yonkers; Edwin Howard Armstrong. Armstrong improved the gain from the crude triodes available in the first decade of the 20<sup>th</sup> century by the use of positive feedback or "regeneration", for which he received a patent in 1914. He essentially had the vacuum tube provide its basic gain multiple times by feeding the output back to the input and having it amplified again.

Any engineer that has designed amplifiers knows that the use of positive feedback or "regeneration" can only be go on so far before the amplifier oscillates. Armstrong not only invented a method of increasing gain in a triode amplifier but also invented the triode oscillator. However, after Armstrong received his patent, DeForest produced notebooks supposedly showing laboratory notes of an amplifier using regeneration that predated Armstrong's patent application. A vicious and long patent battle ensued. (U.S. Patent law is now based on first to make a patent application not first to invent. This prevents dusty notebooks from appearing and claiming precedence.)

DeForest was the first to use the term "radio" in the United States rather than "wireless". The moniker "radio" was gaining acceptance in Europe but it was still wireless in the US. DeForest also coined the phrase "Empire of the Air" which became the title of the documentary movie by Ken Burns for Public Broadcasting Service, PBS, in 1992.

DeForest also declared himself as the "father of radio"; a title he shared with several other inventors. DeForest Manufacturing Company produced a few radio models and some other manufacturers had "DeForest Model" radios but the number of true DeForest radios is miniscule when compared to other manufacturers. Armstrong, on the other hand, never produced radio products but owned several key patents used by large manufacturers, most of which ignored his patents and blatantly infringed. Armstrong was bankrupted by years of litigation which ended with his suicide.

In spite of the fact that there were no DeForest broadcast stations, other than experimental, and the DeForest manufacturing company produced only a small number of receivers, his 1916 broadcast of election results from the Bronx section of New York City qualifies as an important event marking the beginning of the Golden Age of Radio and establishing New York as the center of radio and television broadcasting even to this day.

On the 100<sup>th</sup> anniversary of radio broadcasting and the end of incessant obnoxious campaigning on election day this November, let's celebrate both and honor the Bronx with a big BRONX CHEER!

*Al Helfrick*

## 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 \$29, including tax, for S-XL size's, 2XL size is \$3 additional.

For more information or to order shirts contact: Allan Jusko 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 your support and pride in our Section.

Contact Ron Gedney at 386-478-1204 or [r.gedney@ieee.org](mailto:r.gedney@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/>

### Other web sites of note

#### 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 date for the 2016 fall session is Dec 1.

## IEEE MEMBERSHIP PINS

Membership pins are available for all member grades. Check out this website for more information.

[http://www.ieee.org/membership\\_services/membership/products/pins.html](http://www.ieee.org/membership_services/membership/products/pins.html)

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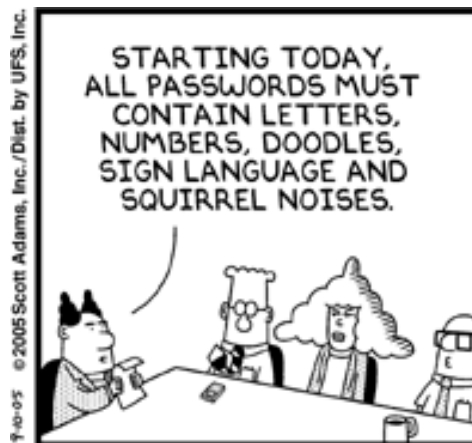
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# OCTOBER 2016 MEETING

**Thursday October 27<sup>th</sup>** 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 Streets

**TOPIC**– Monstrous Madmen: Portrayals Of  
The Engineer And Potential Impacts

**SPEAKER** – Jeanette Barott, Daytona  
Section Chair

## AGENDA

5:30 PM Greetings & Cocktails

6:00 PM Dinner

7:00 PM Presentation

## Dinner Menu

**Braised Brisket** with creamed spinach and roasted potatoes

**Lemon Chicken** with fresh roasted vegetables and roasted potatoes

**Beer battered Haddock** with German style potato salad

The dinner price includes roll and butter, salad, dinner, coffee or tea, gratuity and tax

**Members and guests \$20.00 each. Students \$10.00 each**

Please contact **Allan Jusko** by **Wednesday the 26th at noon**  
to give us a count for dinner or for further information

**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**

Allan Jusko

Editor

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