



IEEE

SPARKS

IEEE Daytona Section Newsletter
October 2011



FROM THE HIGH CHAIR

The fall season is here in Central Florida! It is my pleasure to update you on recent activities the IEEE Daytona Section has been involved with.

The most exciting news about the section this year is the substantial growth of our student membership. With the newly established student branch in B-CU, we see new student members joining us from both ERAU and B-CU. As a section, we will focus on ensuring the continued growth in student membership in the coming years.

With the merger of the honor society HKN (Eta Kappa Nu) into IEEE, ERAU is seeking to establish a chapter of HKN. The IEEE student branch at ERAU is working towards this important goal, and the first step is to recruit a number of engineering students interested in being inducted into HKN. Also, with the interest in artificial intelligence (AI) among ERAU students and faculty, our section's Computer Society chapter is trying to establish a student branch technical chapter on AI as a subunit of ERAU student branch.

On 22 October 2011, several student teams from ERAU will participate in the IEEEExtreme, a global programming competition in which teams of IEEE student members compete to solve a set of programming problems within 24 hours. The event will be supported by ERAU IEEE Student Branch and proctored by local IEEE members. Best of luck to our students!

Our section is involved in the planning of IEEE Industrial Applications Society's Electrical Safety Workshop 2012, which will be held January 30 to

February 3 at the Daytona Hilton. We plan to support the workshop by organizing two trips for conference participants. The first one is a tour of the International Speedway Racetrack, and the other one is a Twilight Cruise on the Indian River.

On September 22, Dr. Christopher Herbster, a Professor of Meteorology at ERAU, gave an interesting presentation on "The Accuracy of Weather Forecasts" at our monthly dinner/meeting. We learned how technology developments over the years substantially improved the accuracy of weather forecast. There is often useful and practical knowledge to learn about at our meetings! I strongly encourage our members and their families to attend these meetings.

Finally, I would like to remind everyone that IEEE Region 3 SouthEastCon will be held in Orlando next year in March. You are strongly encouraged to participate in this major event by submitting and presenting papers, serving in the technical program committee, or becoming a sponsor as a company or organization. Information about the conference is available at:

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

Thomas Yang, Ph.D.

IMPORTANT REMINDER - CHANGE IN THE DISTRIBUTION OF THE SPARKS NEWSLETTER EFFECTIVE NOVEMBER 2011

As presented in last month's SPARKS, the Section needs to make the most of its limited financial resources. After review of expenditures, we found the cost of mailing the newsletter is a major Section expense. Looking at Post Office regulations for bulk mail and the high cost of

mailing the hard copy version, it has been determined, beginning next month, the primary distribution of SPARKS will be by email and our web site.

Most of you do so, but just a reminder, it's important to update your email addresses with the IEEE. Please go to www.ieee.org and update your profile. We expect to mail copies to those that do not have email addresses on file, but ask that you remedy this to help the section finances.

OCTOBER PROGRAM

STEREOTACTIC RADIOSURGERY (Gamma Knife Treatment; CyberKnife Treatment)

Stereotactic Radiosurgery (SRS) is a technique to treat brain disorders. It uses a highly focused beam of radiation to target specific areas of the brain. The beam of radiation destroys the tissue that a doctor would otherwise have removed with a scalpel during an operation.

OUR SPEAKER

DR. BRAD FACTOR

Dr. Factor is Board Certified by the American Board of Radiology in Radiation Oncology and he has interests in treating all cancer sites. Dr. Factor joined Halifax Health after serving as an Associate Professor of Radiation Oncology at the H. Lee Cancer Institute and Research Centers. He is interested in applying new techniques and treatments in the field of radiation oncology, such as stereotactic radiosurgery, intensity-modulated radiotherapy (IMRT), image guided radiation therapy (IGRT) and Stereotactic Body Radiotherapy (SBRT).

TALES FROM THE OLD PROFESSOR

It was one of those hot nights during the summer school break that my friend Wayne and I would spend in his attic suite, laying around on the old couch that was in the electronics workshop that adjoined his bedroom. We often spent the time building or tinkering with some type of electronic device or talking on the amateur radio station in the bedroom.

It was a tense night; you could feel the potential energy that was waiting to fuel a summer shower common to August. We could hear the distant rumble of thunder and see the staccato flickering of light on the horizon. We could also hear the incessant crackling of static from the old

Hallicrafters receiver in the ham station.

"I was reading in a magazine, that if you connect a neon bulb to an antenna when a thunderstorm is near, the bulb will light", Wayne reported. "Do you have a neon bulb?", I asked, "that will be neat to watch".

Wayne had a nice long antenna that was tied to a high branch of an Elm tree in the back yard and entered the workshop through the window. We looked for a neon bulb, first on the workbench and then the drawers. No luck.

"A neon bulb and a fluorescent tube are similar in that they contain a gas which is ionized to produce light", as I pointed to the fluorescent light fixture above the workbench.

"Of course" Wayne exclaimed as he reached up and removed the tube from its socket which plunged us in to darkness interrupted by flashes of ever encroaching lightning.

We needed two clip leads to connect the pins at each end of the tube and we managed to find one but the second was proving elusive. There was a certain feeling of urgency, as the sound of thunder was growing louder and the elapsed time from each lightning flash to the sound of the thunder was shorter. "Use the clip lead to connect the antenna and just hold the other end against the steam radiator for the ground" I offered Wayne held the tube's pins against radiator to make the ground connection. There was a brilliant flash of light, "one-thousand-one, one-thousand-two....." I counted, "ker-blam". "That's less than a half mile away, did the bulb light?" "Couldn't tell", Wayne said, "the light coming in the window was so bright I wouldn't know if the bulb lit or not".

We pulled the window shade down and now the lightning was coming so fast that I couldn't count the time delay from light to sound and I didn't know which light belonged to which sound. Then, as quickly as it came, there was calm as if the storm passed, and we were sure we would never see the lamp light.

Suddenly there was a flash of blue-white light that knew no boundaries and passed through the fabric of the drawn shade and entered the room from every direction. The thunder was so loud that the glass in the windows rattled and the entire house

shook. Wayne shrieked as the hair on his arm stood straight out and from somewhere in the room sparks jumped and there was a smell of ozone. In his fright Wayne dropped the fluorescent tube and it shattered on the floor.

Miraculously, the rain had stopped and there was only the sound of distant thunder and faint flashes of lightning. It was as if a symphony ended with one big rousing chord leaving the listener with calm and quiet. We raised the shade and we could see the entire neighborhood was in darkness. The only light to be seen were the dancing yellow disks of the neighbor's flashlights illuminating the big Oak tree lying in the street, entangled in the power lines it brought down.

Both Wayne and I were shaking and could barely speak, but after a few minutes I was finally able to ask, "did the tube light?" "I don't know", Wayne stammered, "when the lightning bolt hit, I closed my eyes". I don't know if it ever lit, but many times since then as a summer shower approached, I thought, "if I just had a neon bulb".
Al Helfrick, Ph.D.

CALENDER OF EVENTS

Jan. 30th to Feb. 3rd 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

Orlando Section website

www.ieee.org/orlando

FUTURE MEETING DATES

The last meeting date for the 2011 fall session is Tuesday November 29th

2011 SECTION OFFICERS

Chair – Dr. Thomas Yang

386-226-7098 yang482@erau.edu

Vice Chair - Tracy Wichmann

386-673-2753 tracy@alum.mit.edu

Treasurer - Frank Baxter

386-676-0461 tmcfcf@cfl.rr.com

Secretary – Roger Grubic

386-441-8958 roger_grubic@ieee.org

Membership Development – Dr. Ilteris Demirkiran

386-226-6988 demir4a4@erau.edu

Publicity/Media – Jeanette Barott

386-226-7405 barottj@erau.edu

PACE Representative's –

Dr. William Barott

386-226-8973 barottw@erau.edu

Jeanette Barott

386-226-7405 barottj@erau.edu

Awards - Dr. Jianhua Liu

386-226-7713 liu620@erau.edu

Life Member Chair – Ron Gedney

386-478-1204 r.gedney@ieee.org

Computer Society Chair – Dr. Tim Wilson

386-226-6994 wilson@erau.edu

Student Activities - Dr. William Barott

386-226-8973 barottw@erau.edu

ERAU Student Chapter Chair- James Gregoire

207-615-6872 gregoirj@my.erau.edu

Webmaster – Charlie Husbands

386-760-7163 chusbands@ieee.org

SPARKS Editor - Allan Jusko

386-671-3706 a.jusko@ieee.org

The website address for the Daytona Section is:

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

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OCTOBER 2011 MEETING

Thursday October 27th 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 – Dr. Brad Factor

TOPIC–Stereotactic Radiosurgery

October Dinner Menu – It's Italian night

Pasta Bar

[All entrees served with
[rolls and butter,
[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 Wednesday the 26th 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.
