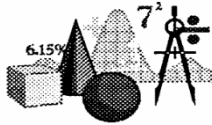




SPARKS

Daytona Section Newsletter
October 2021



<https://r3.ieee.org/daytona/>

SECTION MEETING

Thursday October 28th
7:00 – 8:30 PM

MicaPlex Building in Embry-Riddle Research Park
1511 Aviation Center Pkwy
Daytona Beach

CHAIR'S REPORT



Things are changing. The Daytona Section ExCom primary goal for 2021-2022 is to increase participation at our meetings. We have taken steps to seek out venues with better parking and increased accessibility. We have also purchased equipment which should enhance virtual attendance, as we found in September 2021's meeting needed addressed. We have also looked at the format of the meetings and seeking to have them reach wider audiences by limiting the depth a specific topic will travel. If enough interest is shown in an area, a chapter can be formed were those of like-mind and background can schedule their own meetings and function as

best serves their respective members. There might also be an opportunity to establish mentoring or public venues by each chapter (e.g., volunteer at computer centers at public libraries as chapter events, mentor high school students for their science fair projects, provide college students subject matter experts for projects and dissertations).

We will be testing out the new conference equipment during the October 2021 Daytona Section meeting. Please visit face-to-face or connect via Zoom at least for a few minutes. This is a work in progress, so your feedback is readily desired and intrinsically invaluable. In closing, I would like to mention that it is not my intention to entertain you at our meetings, though many of our gatherings do so very nicely. I hope to get more of you involved doing the very things you enjoy doing. If shop-talk and projects are more interesting to you than a lecture, then I would like to encourage the creation of chapters across the section to do just that.

Shawn

MEETING VENUE

Our Section October meeting will again be at the MicaPlex building which is located just south of the campus of Embry-Riddle.



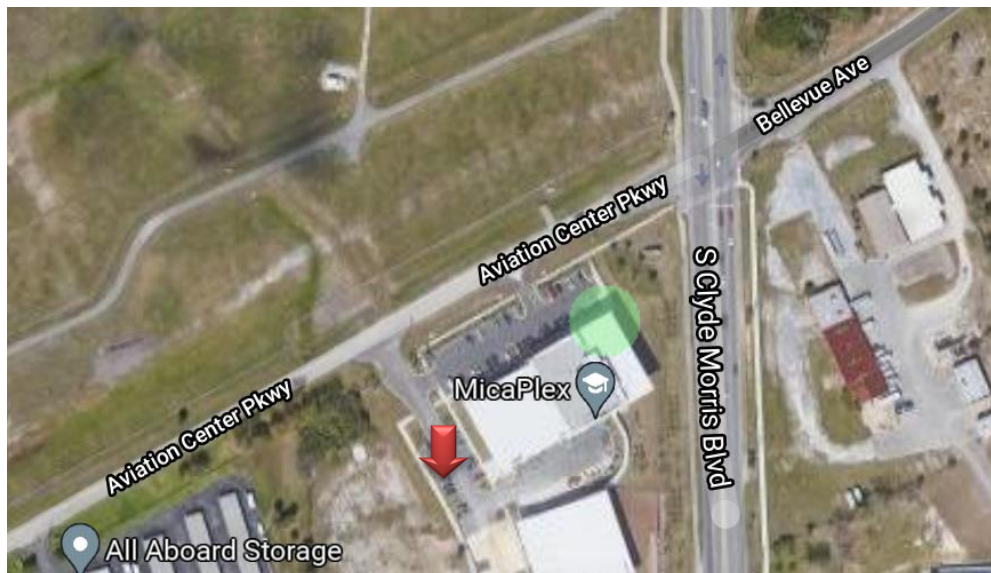
The new location being near Embry-Riddle makes it easier for students to participate in our meetings and provides a more private atmosphere. There are ample meeting rooms for our needs, and parking is not a problem at that time of day.

Below is a screenshot of the MicaPlex, which is located at the intersection of S. Clyde Morris Blvd and Aviation Center Pkwy (the other side is Bellevue Ave) just south of the ERAU campus.

We need to use the building entrance at the north east side of the building, shown in the area of the light green circle in the map shown below. There are ample parking spaces at the south side of the building, indicated by the small red arrow, if you cannot find one close to the entrance. Dr. Liu or Dr. Rojas will be at the entrance to open the door before the meeting as it is normally locked.

For those planning to attend, because of security requirements, attendees are asked to notify us with their names so a list can be provided to facilitate the process. You can register at the door, but letting us know beforehand will speed up the process.

You can respond by email or phone to: Al Jusko, a.jusko@ieee.org or 386-671-3706



OCTOBER'S PRESENTATION

VIRTUAL CARE: A PARADIGM SHIFT IN HEALTHCARE DELIVERY

Virtual care is a broad term that represents remote patient monitoring, mobile health, telehealth in the form of medical data evaluation, and the now widely-used service of telemedicine, e.g. virtual visits with your healthcare provider. The presentation examines how the pandemic has caused a cultural shift and accelerated the acceptance of a virtual environment in healthcare delivery, augmented by the relaxation of regulatory requirements. Healthcare technology companies compete for opportunities on the market and fuel the transition to a digital transformation in healthcare at an exponential rate. Discussion of future trends will round out the presentation.

OUR PRESENTER



Helen B. Hernandez, Ph.D., is an IS Professional whose experience spans several decades in computer technology and networking, including run an independent ISP business. She received her Ph.D. in Information Systems from Nova Southeastern University, Fort Lauderdale, in 2019.

Currently she is works as a Business Analyst at a Medical Practice in Daytona Beach. Her strengths are business consulting, medical practice information structure, EHR software evaluation and training, and medical practice compliance issues.

Her research interest's topics include medical device technology, security and application. In addition—together with her research partner and husband Joe—they are currently working on a book project that consists of a narrative study of her grandfather Leo Birkmann who was a German impressionist painter (1911 - 1983). Dr. Hernandez is also the Daytona Section's Webmaster.

For those wanted to attend virtually, we will Zoom the October meeting. You can join the Zoom Meeting at:

<https://erau.zoom.us/j/7402517688> Meeting ID: 740 251 7688

Time: Oct 28, 2021 07:00 PM Eastern Time (US and Canada)

LIFE MEMBER CHAPTER ANNOUNCEMENT

Professor Wu will host the Life Members Affinity Group (LMAG) at Bethune Cookman University on Friday, Nov. 5 at 1:00 p.m. After a brief tour of the facilities, the LMAG will meet with the students who will outline their plan for developing robots. The LMAG will also have an interactive session with the students and answer their questions about IEEE and what engineering is like in industry.

If you are interested in attending this visit to B-CU, send an e-mail to Ron Gedney (r.gedney@ieee.org) or Marty Oksenhorn (moksenho@yahoo.com).

ANOTHER TALE FROM THE OLD PROFESSOR

OLD SOLDIERS NEVER DIE

“Old soldiers never die; they just fade away” is from an English folksong used by General Douglas MacArthur in his farewell address to a joint session of Congress in 1951. This Tale is not about military soldiers but instrumentation and tools found on electronic workbenches for a half century or more.



An “old soldier” that is very much alive: the latest version of the Simpson 260.

No electronic workbench is without a voltmeter, ohmmeter, or ammeter. These three functions are usually found in a single instrument known as a multimeter or volt-ohm-milliammeter, VOM.

The Simpson 260 VOM, introduced in 1939, is still in production and will set you back about \$350. It is estimated that over 5 million 260s have been made. Simpson Electric, originally in Chicago later in Elgin IL, is now in Wisconsin. If you have one of those “vintage” 260’s, Simpson will sell you a “renew kit”, which is a new case with a front panel and meter bezel with the glass to refresh the old banged-up 260 that has been kicking around on your work bench for decades and still works.

The Simpson 260’s long-time main competitor, the Triplet 630 VOM, is still available. Triplet lists it in their current catalog for \$480 and touts it as a “best seller”. Your humble correspondent uses his Triplet 630 for a number of applications except measuring resistance. Resistance measurements require a 1.5-volt AA cell and a very expensive, hard-to-find, 30v battery.

Oh, yes, I do have a pocket-size 3 ½ digit digital multimeter that I use a lot. It costs about one tenth that of a brand-new Triplet 630, which is good because I dropped my previous little digital meter from my radio tower and it didn’t survive the collision with the ground. There are times when the old Triplet is better than a digital meter, like monitoring some parameter over a long period of time. As an example, after building a new transmitter I want to watch the drain current for the FET output transistors while I am using the transmitter which could be hours at a time. My handy pocket-size digital meter has a time-out circuit that saves the battery but shuts down the meter every 10 minutes.



The venerable Bird 43 RF wattmeter

Speaking of transmitters; I have an old Bird 43 RF wattmeter that I have been using for over 50 years for measuring forward and reverse RF power. The 43 is in a cast aluminum case and the meter is mounted on rubber shock absorbers. I haven’t tried it, (yet), but it looks like it could survive a fall from my radio tower. I have tested it in falls from my workbench and it survived. First manufactured in Cleveland in 1942, the Bird 43 wattmeter is still available and made in Solon OH, a Cleveland suburb.

We can't leave Cleveland without mentioning another "Old Soldier"; the Variac variable transformer. This tool is indispensable for restoring antique radios; even troubleshooting modern ones. I use my Variac to slowly increase the supply voltage while I conduct a preliminary smoke test. Then, I use my handy 3 1/2-digit multimeter's temperature probe to look for hot spots and measure various voltages. Introduced in 1946, Variacs are still being made in Cleveland.

No electronics work bench is complete without a couple of soldering irons. I have 2 Weller irons; one is an old classic fixed-temperature iron while the other is a variable-temperature iron that accepts very thin tips for working on small components. I have had both for over 40 years. For BIG soldering jobs like copper ground straps, I rely on my old tried and true American Beauty soldering iron. Weller in Easton, PA, having made its first product, an instant heating soldering gun in 1945, is a newcomer compared to American Beauty who has been making soldering irons in Detroit since 1894; long before there were radios. You didn't think that soldering was only used for electronics, did you? There was plenty of soldering going on before there were radios.

In 1894 the solder of the day was solid, which means you had to apply a flux before soldering. This was usually messy and particularly unattractive for the fine wires used in radios. Luckily, in 1899, the Chicago Solder Company introduced the Kester brand of solder with the flux in the core. Kester has been my choice of solder since I made my first ugly solder joint perhaps 65 years ago.



For soldering "big stuff": a 300w American Beauty Soldering iron.

There is one more Old Soldier that I have never owned but I have used a few times in my career; the Megger insulation tester. The Megger is an ohmmeter that measures very high resistance to test insulation. To measure high resistance, the original Megger, ca. 1900, applied over a thousand volts from a hand-cranked generator. Modern Meggers use much lower voltages from a power supply rather than the generator and use amplifiers to sense the small leakage currents. Some modern Meggers have the ability to test insulation for breakdown and apply well over 1000 volts. The Megger is a British Old Soldier and if you desire the nostalgia of the hand-cranked generator, the hand-cranked model MJ159 is available from Megger.

For now, this Old Soldier is going to sign off and fade away until the next Tale.

Dr. Al Helfrick, a.k.a. The Old Professor

PE CORNER

What is FEMC?

I'd guess that it's pretty-much universally understood, at least among the engineering community, that the Florida Board of Professional Engineers licenses engineers in Florida and regulates the practice of engineering. And it's probably a little less well known that the FBPE operates under the auspices of the Department of Professional and Business Regulation, which is a state agency.

Until July 1998, administrative and investigative functions for the FBPE were performed by DPBR employees. In 1997, the Florida Legislature determined "that the privatization of certain functions that are performed by the department for the board will encourage greater operational and economic efficiency and, therefore, will benefit regulated persons and the public."

Section 471.038, F.S. (97-312, Laws of Florida [L.O.F]), created the Florida Engineers Management Corporation (FEMC), a public-private partnership, for the purpose of performing staff duties for the Florida Board of Professional Engineers (Board). FEMC provides administrative, investigative, and prosecutorial services according to a contract with the Department of Business and Professional Regulation (DPBR).

FEMC is established as a nonprofit corporation with a seven-member board. The FEMC board is composed of five registered engineers appointed by the FBPE, and two laypersons appointed by the Secretary of DPBR. Like many statewide offices, FEMC board members are limited to serving two four-year terms. I currently have the honor of acting as the chair of FEMC.

FEMC took over the administrative duties for the FBPE on July 1, 1998. As an integral part of the FBPR, FBPR and FEMC share resources including the Board's website. It may surprise many of you that for nearly 20 years the FBPE support staff has been employed by FEMC and not by the State (DPBR) or the Board itself. I would say, though, that this transparency is indicative of the success of the arrangement. As required by statute, the Legislature must review the FEMC's performance and reenact the enabling legislation. To date, this arrangement has received favorable review and the Legislature has continued FEMC's mandate.

Additional information about FEMC and FEMC Board Members is available on the FBPE's website.

Whether you are a PE looking to attain required CEHs, or an engineer looking to learn something new or keep current with the latest trend in the profession, IEEE has seminars that will meet your needs.

Art Nordlinger, PE, Senior Member

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 \$35, 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

FUTURE MEETING DATES

2021 Section meetings, depending on the coronavirus situation at the time:
Fall semester: Dec 2

DAYTONA SECTION SOCIAL MEDIA INFORMATION

Facebook: <https://www.facebook.com/daytonaieee/>

Twitter: @IEEEDaytona

LinkedIn: <https://www.linkedin.com/company/ieee-daytona-section>

ENGINEERING HUMOR



“According to the computer, I need to back up your kidneys, defragment your liver and reboot your heart.”

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