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Florida West Coast Section (FWCS) Please Check the Website Often for UPCOMING EVENTS (Front Page Right Column) <https://r3.ieee.org/fwc/>

The SunCoast Signal

The Institute of Electrical and Electronics Engineers, Inc.

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IEEE STEM Champion



Introduction to Energy
Thursday, September 1st, 2022
Saint Petersburg College
CC Building, 2465 Drew Street,
Clearwater, FL 33765

This is a call for speakers on topics related to energy. Joint Meeting with the Power Engineering Society.

Contact:

Sean Denny, STEM Champion: venner20@ieee.org
Robert Demelo: robert.demelo@ieee.org or
Sidney Martin: martin.sidney@spcollege.edu



The speakers can address topics that they are familiar with and have a passion for sharing their knowledge and experience. The goal of this event is to develop an interest in students to consider studying engineering and related fields. The presentations can be 30, 45, or 60 minutes. If someone is willing to lead an activity that they are familiar with, that would be a great addition to the day. We can accommodate the availability of the speakers.

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Next ExCom Meeting
Tuesday, August 2, 2022
Google Meet
Register with vTools
<https://events.vtools.ieee.org/m/320195>

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St. Petersburg College (SPC) will be having an event on September 1, 2022, to address topics in energy. There will be speakers who will address different topics related to energy. There will be speakers and activities between 10 am to 2 pm and 5 pm to 8 pm. We would schedule a series of speakers on energy-related topics and activities, including an electric vehicle show and displays from local companies which illustrate energy creation or use. This concept of the vehicle displays includes

“Touch an Electric Vehicle” (companies bring electric vehicles, hybrids, and other electrified vehicles) for display (maybe we do not get to “touch” them), but they will be available for viewing.

There will be a Solar demonstration and other passive energy displays. The event is advertised to high schools/middle schools and will include SPC students, faculty, and families. The event will be open for participants and families to join us.

THE SUNCOAST SIGNAL, published monthly by the Florida West Coast Section (FWCS) of the Institute of Electrical and Electronics Engineers, Inc. (IEEE). **Please Note that the SUNCOAST SIGNAL is sent each month to ACTIVE members of the IEEE Florida West Coast Section. So to continue receiving the SIGNAL please keep your membership Active, meaning, renew your membership when it becomes due.** Annual subscription is included in the IEEE membership dues. The opinions expressed, as well as the technical accuracy of authors, advertisers or speakers published in this newsletter are those of the individual authors, advertisers, and speakers. Therefore, no endorsement by the IEEE, its officers, or its members is made or implied. All material for THE SUNCOAST SIGNAL is due in electronic form by the end of day of the 1st Monday after the 1st Tuesday of the month, i.e. the ExCom meeting, preceding the issue month.

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DC Arc Flash Calculations

- Date:** Friday, August 26, 2022
- Time:** Seminar: 10:00AM - 3:00PM
- Location:** Online - Webinar
- Speaker:** Thomas Blair, P.E., Senior Engineering Fellow, Tampa Electric Company
- Course Level:** Intermediate
- Cost:** \$75 Members, \$150 Non-Members, \$10 Students.
- CEH Credits:** Four (4) Professional Development Hours will be awarded
- Be sure to enter your name and PE number on the signup website as it appears on your license. IEEE Florida Provider Number is 0003849.
- Registration:** Online at <https://events.vtools.ieee.org/m/315799>
- Questions:** Ryan Copley – r.copley@ieee.org / Tom Blair - tom_blair@ieee.org
Robert DeMelo – Robert.demelo@ieee.org

Abstract: Your local IEEE PES/IAS Chapter will host a seminar on the topic of performing “DC Arc Flash Calculations”. We will cover the three most common methods for performing calculations:

- ◆ Maximum Power Transfer Method
- ◆ Stokes & Oppenlander Arc Resistance Method
- ◆ Paukert Arc Resistance Method

Additionally, we will discuss the difference between methods when applied to a voltage sourced system compared to a photovoltaic sourced system. Lastly, we will discuss some test results of PV systems and compare to the various calculated models to determine how accurately the models estimate actual incident energy levels on PV systems.

Speaker: Tom Blair is a Senior Engineering Fellow with Tampa Electric. He performs electrical system analysis and uses the results to specify electrical equipment ratings, protective relay settings, and electrical system arrangement.

Tom has also been adjunct professor in the past at the University of South Florida and has presented courses at the university on topics such as Electrical Machines and Drives, Energy Production Systems Engineering, and the FE and PE (power) exam preparation course at USF. Mr. Blair is a Senior Member of IEEE.

PES/IAS ExCom Meeting

Saturday, August 27, 8:00 am – 9:00 am

Online at:

<https://events.vtools.ieee.org/m/292693>

Into the Career of a Senior Network Performance Manager

*Interview with Thomas Giacomo, an IEEE Senior Member, by Ishmam Hossain,
an Electrical Engineering Student at USF*

Thomas Giacomo was a student at the University of South Florida (USF), Tampa, Florida from 20th August 1984 to 17th May 1991 in the department of Electrical Engineering. He had preferred Electrical Engineering over Mechanical Engineering after receiving advice from his older brother who also happens to be an Electrical Engineer due to his growing interest in the field of communication and currently considers himself to be a radio engineer. In fact, one of his significant achievements includes being a Professional Engineer from the Florida State Board of Professional Regulation. He had a wonderful time at USF and made a lot of friends out there. He worked closely with Dr. Marino and really appreciated his work. During his stay at USF, he was involved a lot with the student chapters like IEEE and since then he has been a part of it for almost 37 years.

IEEE had enabled him to make a lot of connections with many prominent engineering companies since it arranged a wide range of events including workshops and end-of-year banquets where guest speakers from several recruitment companies were invited to talk. He even became the recording secretary of IEEE during his school years and was in charge of keeping track of everything that took place in those meetings. The role of IEEE is extremely significant in his sight since it allowed him to access all the latest resources and materials which were previously unknown to him.

As for his work experience, he is currently the Senior Network Performance Manager at Verizon Wireless, Tampa Florida, and has been there since January 2001. He is in charge of supervising a team of 11 engineers whose job is to make improvements to the wireless communication networks (not limited to 850 MHz, 1900 MHz, 2100 voice, 1X and 3G data, LTE data, VoLTE, and 5G RAN) and look after the operations of three switching centers and more than 700 cell sites.

He served as the Senior Radio Design Engineering Planner, GTE Wireless, Tampa, Florida from 23rd June 1997 to 15th October 1999 and as Radio Frequency Performance Engineer in GTE Mobilnet from 13th August 1990 to 13th March 1995.

In 1992 he researched Urban Mobile propagation modeling Cross Pole Antennas and in 1993, he conducted research on remote fiber antenna and in 1995 tried developing the GRANET RF Design Tool all in GTE laboratories. In 1995 he won the Annual Award and President's Award for Technology Achievement from GTE for his work on Rural CDMA Propagation Characteristics program in Qualcomm. In 1990, he took part in improving Cellular Mobile Power Control under the supervision of Motorola and Cellular Base Station Dynamic Power Control in 1991 under AT&T Bell Labs. Between 1999 and 2001, he worked Bell Atlantic in Philadelphia where he supervised 25 engineers that conducted the design, deployment, and performance of analog, digital 850 MHz, digital 1900 MHz, and data wireless communication networks for the Philadelphia market. He even led a data team and monitored the performance of CDPD and 1X data systems operation.

One of his regrets was that he turned down some of the amazing international offers which came to him from places like Japan and Russia and recommends that upcoming engineers to refrain from such mistakes since they would never know when something big might happen to their lives. In addition, he emphasizes on saving from the very first day at college since often the graduates have a huge debt of student loan which takes time for them to pay off completely. Mr. Giacomo is extremely positive about his field of expertise. He believes it will allow us to accomplish unimaginable things and for this he references the recent scientific progress in communication through mass scale use of social media and sophisticated technology such as self driven cars.

Electrical Engineering History

20th Century Developments

John Fleming invented the first radio tube, the diode, in 1904.

Reginald Fessenden recognized that a continuous wave needed to be generated to make speech transmission possible, and by the end of 1906 he sent the first radio broadcast of voice. Also in 1906, Robert von Lieben and Lee De Forest independently developed the amplifier tube, called the triode. Edwin Howard Armstrong enabling technology for electronic television, in 1931.

In the early 1920s, there was a growing interest in the development of domestic applications for electricity.[35] Public interest led to exhibitions such featuring "homes of the future" and in the UK, the Electrical Association for Women was established with Caroline Haslett as its director in 1924 to encourage women to become involved in electrical engineering.

World War II years

The second world war saw tremendous advances in the field of electronics; especially in radar and with the invention of the magnetron by Randall and Boot at the University of Birmingham in 1940. Radio location, radio communication and radio guidance of aircraft were all developed at this time. An early electronic computing device, Colossus was built by Tommy Flowers of the GPO to decipher the coded messages of the German Lorenz cipher machine. Also developed at this time were advanced clandestine radio transmitters and receivers for use by secret agents.

An American invention at the time was a device to scramble the telephone calls between Winston Churchill and Franklin D. Roosevelt. This was called the Green Hornet system and worked by inserting noise into the signal. The noise was then extracted at the receiving end. This system was never broken by the Germans.

A great amount of work was undertaken in the United States as part of the War Training Program in the areas of radio direction finding, pulsed linear networks, frequency modulation, vacuum tube circuits, transmission line theory and fundamentals of electromagnetic engineering. These studies were published shortly after the war in what became known as the 'Radio Communication Series' published by McGraw-Hill in 1946.

In 1941 Konrad Zuse presented the Z3, the world's first fully functional and programmable computer.

Post-war years

Prior to the Second world war, the subject was commonly known as 'radio engineering' and was primarily restricted to aspects of communications and radar, commercial radio and early television. At this time, the study of radio engineering at universities could only be undertaken as part of a physics degree.

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1/2 Page	\$75	\$98	\$360	\$450	\$630	\$756
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Full Page	\$140	\$182	\$670	\$838	\$1,175	\$1,410
Insert / Sheet	\$200	\$260	\$800	\$1,000	\$2,000	\$2,400

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August 2022 - Calendar of Events <i>(For more information see "Inside the SunCoast Signal" → Page 1)</i>						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
		*ExCom →Page 1				
7	8	9	10	11	12	13
	*Signal Inputs Due End of Day					
14	15	16	17	18	19	20
21	22	23	24	25	26	27
					*DC Arc Flash... →Page 3	*PES/IAS ExCom →Page 3
24 / 31	29	30	31			