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The SunCoast Signal

The Institute of Electrical and Electronics Engineers, Inc.

Florida West Coast Section (FWCS)

Please Check the Website Often for UPCOMING EVENTS (Front Page Right Column)

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

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Next ExCom Meeting
Tuesday, June 7, 2022

Google Meet

Register with vTools

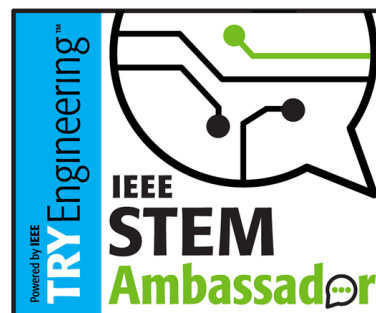
<https://events.vtools.ieee.org/m/311383>

Sean Denny is appointed IEEE STEM Ambassador now through March 2023

We Congratulate Sean for this Significant and Worthwhile Accomplishment

Responsibilities are:

- ◆ Conduct two (2) STEM outreach events (in-person or virtual) between now and 27 March 2023
- ◆ Share your event in vTools (a review of the process will be provided next month) by 27 March 2023.
- ◆ Promote IEEE's pre-University Education Programs.
- ◆ Help build IEEE pre-University STEM outreach volunteer community.



Senior Member Roundup

Register:

<https://events.vtools.ieee.org/m/312355>

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Successful Introduction To The Python
Programming Language Seminar

On Wednesday, May 4 2022, the IEEE FWCS hosted an introduction to Python online presentation. This event was attend by 84 FWCS members.

Dr. Jim Anderson presented an overview of the Python programming language including a history of the language, how variables are handled, decisions are made, and two different looping techniques. Python lists were explored along with their associated tools. Finally, Python functions and the use of parameters were explained.

The slides from the presentation are available here: <https://tinyurl.com/2p8w72nk>

The video from the session can be seen here: <https://tinyurl.com/f4r8tzvk>

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Co-Chair CS/AESS Joint Chapter

THE SUNCOAST SIGNAL, published monthly by the Florida West Coast Section (FWCS) of the Institute of Electrical and Electronics Engineers, Inc. (IEEE). THE SUNCOAST SIGNAL is sent each month to members of the IEEE on Florida's West Coast Section. 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. Address all correspondence to: Michael Mayor

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The Use of Synchrophasors to Understand What Happened to the Power Grid During the Winter Storm Uri Event – February 2021

Date: Thursday, July 21, 2022

Time: 11:30 – 1:30pm (log-in to the seminar begins at 11:15) – 2 Hours

Speaker: Dr. Mack Grady, Professor of ECE, Baylor University - mack@ieee.org
IEEE Fellow, Registered Professional Engineer in Texas

Location: Webinar - Online

Cost: \$50 Members/\$100 Non-Members/\$10 Students

CEH Credits: Two (2) CEHs will be provided for this event. Florida provider #0003849.

RSVP: Online at: <https://events.vtools.ieee.org/m/312250>

Questions: Adrian Zvarych - azvarych@powergridmail.com or
Robert DeMelo – Robert.demelo@ieee.org

Abstract: The winter event that occurred in February of 2021 (unofficially referred to as Winter Storm Uri) was one of the costliest winter storms on records.

The storm resulted in over 170 million Americans being placed under various winter weather alerts being issued by the National Weather Service in the United States across the country and caused blackouts for over 9.9 million people in the U.S. and Mexico, most notably the 2021 Texas power crisis. The blackouts were the largest in the U.S. since the Northeast blackout of 2003.

This lunch and learn will cover how the use of Dr. Grady's Texas Synchrophasor Network (TSN) and how the use of data, oscillography, etc. helped paint the picture and explain the sequence of events that took place on the grid during the duration of the storm.

Speaker: Dr. Mack Grady, PE is a professor at Baylor University since 2012, and was awarded Professor Emeritus status at U.T. Austin in 2013 for his service there since 1983.

Dr. Grady is an IEEE Fellow for “Contributions to the analysis and control of harmonics and electric power quality.”

In 2007, with the help of Schweitzer Engineering Labs, he started the “Texas Synchrophasor Network” (TSN) with three stations in Texas and one in New Mexico. The TSN moved with him to Baylor in 2012, additional stations were added in the Eastern Grid, including three stations belonging to OG&E. Also, SEL, ERCOT, OG&E, Austin Energy, U.T. Austin, U.T. Rio Grande Valley, and several other individuals continue to support the effort.

His two other present-day research topics are 1. working as part of the HEMP-E3 research team of DoD-DTRA and their affiliated ARA research organization since 2008, and 2. assisting ERCOT with grid topics most important to them.



Florida Laws and Rules and Ethics for Professional Engineers

Date: Thursday, July 28, 2022

Time: 10:00 am-noon

Cost: \$30 IEEE Members / \$50 Non-Members / \$20 IEEE Student Members

Speakers: Mr. Art Nordlinger, PE, IEEE Representative to the Florida Board of Professional Engineers

Presentations: The Rules and Laws That Govern the Practice of Engineering in Florida
Ethics and the Practice of Engineering in Florida

CEHs: One (1) Rules & Laws CEH will be awarded; and
One (1) Ethics CEH will be awarded, which will meet the current requirements for PE Renewals.

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.

Location: This seminar will be presented virtually

Registration: Register at <https://events.vtools.ieee.org/m/310530>

Questions: Art Nordlinger: a.nordlinger@ieee.org or Robert DeMelo: Robert.demelo@ieee.org

The Laws and Rules that Govern the Practice of Engineering in Florida.

This course is at a basic to intermediate level.
Florida Statute 471 – Engineering FBPE and FEMC
Florida Administrative Code Updates from NCEES and FBPE

Ethics and the Practice of Engineering in Florida.

This course is at a basic to intermediate level Basic Engineering Ethics Precepts
Florida Administrative Code 61G15
Recent Cases and Examples

Art Nordlinger, PE, who recently retired after a rewarding career in the electric utility industry, was most recently the Manager of Transmission Tariff and Contracts at Tampa Electric Company.

Art earned a Bachelor of Science degree in Electrical Engineering from Northwestern University in 1979 and his Master of Engineering degree in Electric Power Engineering in 1988 from Rensselaer Polytechnic Institute. Art is a Senior Member of IEEE, Chair of the Florida Engineers Management Corporation (FEMC), and a registered PE in the state of Florida.

PES/IAS ExCom Meeting

Village Inn, 215 Dale Mabry Hwy, Tampa, FL 33609

Saturday, June 25, 8:00 am – 9:00 am

IEEE FWCS PES/IAS Update

It's hard to believe that we are at the mid-way point of 2022! Your IEEE FWCS PES/IAS Chapter recently placed third as a High Performing Chapter out of all PES/IAS chapters, only behind Thailand Chapter at number one and the Malaysia Chapter at number two. In total for Region 3, five chapters were recognized at various levels for a combined award total of \$3,230. Great job to the leadership, officers, and supporting Members.

The 2022 calendar year is off to a great start with two (2) webinars that occurred in February, one (1) on-site tour (split into two groups) in April, and five (5) monthly Chapter ExCom Meetings. If you are interested in attending a PES/IAS ExCom Meeting, we would love to have you join us for a planning meeting which take place on the last Saturday of each month at the Village Inn Pancake House on North Dale Mabry (address and details in the Signal and posted on VTools).

Events we have upcoming include the following: AI-Driven iDERMS Solution for Utility Scale Renewable Power Plants, DC Arc Flash, Distribution Reliability, Motor Protection, Use of Synchrophasors to Understand What Took Place on the Grid During Winter Storm Uri, Florida Laws & Rules and Ethics, and System Protection Engineering and Design. Please be on the lookout in the Signal and in VTools for these upcoming events.

A picture is worth a thousand words! The photos below were taken during the April 22nd Tour of Florida Power & Light's (FPL) 400 MW Energy Storage Facility in Parrish Florida. The tour was broken up into two groups, an AM and PM session, and was a great success and very informative. The Chapter received positive feedback from attendees. A special thanks to Marcos Quintana and the FPL team for the classroom discussion and overview, including the site walk-down. It's the Chapter's hope that we increase our number of on-site tours in 2022 as the pandemic protocols are eased and facilities open back up for tours.



2022 Robofest Qualifying Competition Results

Congratulation Coaches, Students, Volunteers and Sponsors!
What an awesome first In-Person STEM event!

We thank Michael Okneski, IEEE FWCS Robotics and Automation Vice Chair for volunteering as a judge and the Clearwater Main Library, Mercedes, Crystal and staff for their countless hours and hard work to make the STEM event a success.

Also, we thank Stephen and Keith for live

streaming of the event; Nielsen and TBTA our awesome local sponsors; volunteer judges and others.

2022 Robofest Qualifying Competition

Host: Clearwater Main Library

April 9, 2022

1st Place Trophy Winners in Game and Exhibition Advancing to ROWC Automatically:

Jr Game: 1752-3 Smash Clan

Sr Game: 3263-10 PREDATOR

Sr Exhibition: 3549-3 Eagle - 3

ALL OTHER Teams (Game and Exhibition) may use Option 2 or 3 to Advance to Robofest Online World Championship



Insights by a Senior Transmission Engineer on Education, Career, and Character**An interview with Nicholas DeSantis,****IEEE Senior Member and a Transmission Design Engineer By****Thomas Kalach, a second-year Electrical Engineering student at the
University of South Florida.**

Getting to know Nicholas DeSantis on a professional and a more personal level was a pleasure of mine which I will cherish dearly. Our conversation covered many interests and topics which are relatable and valuable to up-and-coming engineers, such as myself. Ultimately, my rich discussion with Mr. DeSantis about his extensive and impressive career in the engineering field was an experience which I will fail to forget.

Born and raised into an Italian family of longshoremen, Nicholas grew up in Brooklyn, New York, where life and money were not a given for him. As a youngster, he was already thinking cleverly and towards his future, enrolling into an engineering high school that required long days and nights of studying. While choosing his track of engineering in his junior year of high school, electrical came to his interest as it was one of the few that ironically needed less requirements than the other tracks. This decision seemed to do well for DeSantis because after graduation, he then applied and was accepted into the Lamar State College of Technology in Texas (now Lamar University), majoring in the field of electrical engineering. However, soon after, due to political and financial reasons at the time, Nicholas transferred to the Tennessee Technological University, where he chose a track in power and later graduated with his bachelor's in electrical engineering.

While some may disagree that obtaining a bachelor's degree is essential to their career path, DeSantis offers a personal insight into the topic. He says that "Having a degree is a major tool that will help get your foot in the door, which will then lead to other open doors", alluding to the fact that many employers nowadays look for graduates with a degree. Although, that is not the only perspective he offers. It is also a crucial point which he makes, stating that "We don't have enough people going to trades anymore... that education pushes too many people towards college". While doing so, trades are often seen as a "lesser" occupation, which is not a fact.

Additionally, DeSantis claims that earning a degree does not always earn you common sense.

One can agree that technical competence in the work force is a necessity and can often be taught, on the other hand, common sense is also a necessity but cannot be taught. In both cases, something that can be extremely beneficial to either of these cases is experience.

Mr. DeSantis has definitely had an impressive career within his nearly 50 years of experience. Some of his most notable positions include first starting in 1973, fresh out of college as a transmission engineer at Florida Power & Light Company. Transitioning amongst companies, he stayed in the transmission industry until 2005, where he then made a switch into the consulting side of the business. Starting off underneath larger companies until he ultimately began working for himself as an independent contract consulting engineer as well as providing utility professional services, which he does till this very day. Amongst many of his elaborate projects, Nicholas chose one which stands out to him. As seen in the pictures below, double circuit 230KV towers in Pinellas County were going from one substation to another. Within the area, there are major roads in-between with extremely limited clearance. The project involved taking the dead circuit and connecting it to the other in order to bypass the power. With little-to-no space for large equipment and cranes, this made this task extremely difficult. After countless weeks of studying and surveying the area, an independent circuit was built on both sides, successfully connecting the power with an electrical 'box' to safely and effectively supply power to the necessary areas.

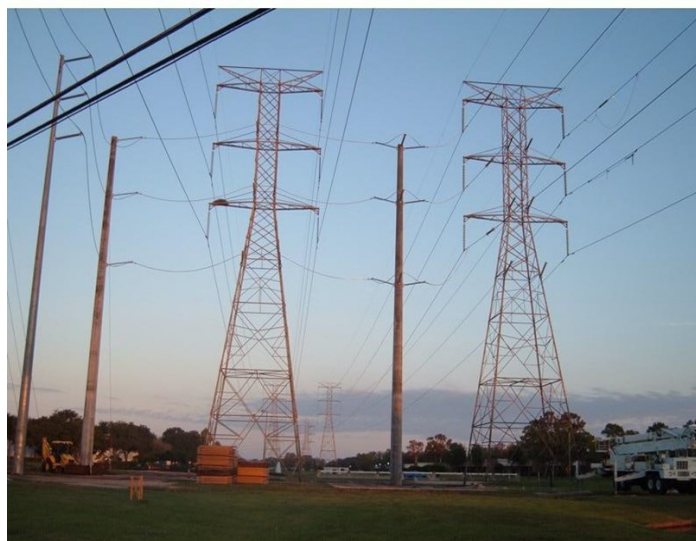
The IEEE or Institute of Electrical and Electronics Engineers, was founded in 1963, with a core purpose is to foster technological innovation and excellence for the benefit of humanity. Within just a decade of its formation, Nicholas DeSantis joined the organization which he declares helped to give him a sense of identity for his profession, while still studying in university.

Continued from page 7

Now after being appointed a senior life member of the organization, he shares that the value of IEEE also helped him to interface with other members as well as professors too, building relations and connections with the people who shared many interests and similar professions as him. Furthermore, 25 years after his graduation, IEEE helped pave a way for DeSantis to land a spot on the NESC (National Electrical Safety Code) committee, which the IEEE acts as the Administrator of. Lastly, this interview which was organized on behalf of the IEEE Senior Member Advancement Committee was said to be a great way to give back to the younger generations and up-and-coming engineers by sharing information, experience, advice, and much more.

Life itself is a learning experience, it comes with many ups and downs, but as long as you learn from both, it can only benefit you.

Nicholas believes that “Life is a choice, no matter how bad it is to you, when you wake up in the morning you’re going to have to choose ‘Am I going to be good or bad?’”. Learning to separate personal life from professional life and handle yourself as an adult is also a major piece of advice which was given. Looking back at his career in hindsight, Mr. DeSantis provided some key lessons for myself and others to acknowledge. For instance, realizing that communication is key, and although one should not be afraid of voicing their opinion, remain humble while doing so. Ask many questions, ask for help when needed as well, don’t let your ego be the bigger player, you can’t win every battle alone. Lastly, be considerate of others and do not get full of yourself, remember where you were in order to get to the position you are today.



Brief History of STEM

STEM, Science, Technology, Engineering, and Mathematics, is a field and curriculum centered on education in the disciplines of Science, Technology, Engineering and Mathematics. The STEM acronym was introduced in 2001 by scientific administrators at the U.S. National Science Foundation (NSF). The organization previously used the acronym SMET when referring to the career fields in those disciplines or a curriculum that integrated knowledge and skills from those fields. In 2001, however, American biologist Judith Ramaley, then assistant director of education and human resources at NSF, rearranged the words to form the STEM acronym. Since then, STEM-focused curriculum has been extended to many countries beyond the United States, with programs developed in places such as Australia, China, France, South Korea, Taiwan, and the United Kingdom.

STEM in the United States

In the early 2000s in the United States, the disciplines of science, technology, engineering, and mathematics became increasingly integrated following the publication of several key reports. In particular, *Rising Above the Gathering Storm* (2005), a report of the U.S. National Academies of Science, Engineering, and Medicine, emphasized the links between prosperity, knowledge-intensive jobs dependent on science and technology, and continued innovation to address societal problems. U.S. students were not achieving in the STEM disciplines at the same rate as students in other countries. The report predicted dire consequences if the country could not compete in the global economy as the result of a poorly prepared workforce. Thus, attention was focused on science, mathematics, and technology research; on economic policy; and on education. Those areas were seen as being crucial to maintaining U.S. prosperity.

STEM in the University of South Florida

The Master of Science in Secondary STEM Education prepares teachers in STEM (science, technology, engineering and math) programs to create experiences that excite and interest students of all backgrounds and to support states and school districts in their efforts to transform schools into vibrant STEM learning environments.

The program's curriculum provides secondary grades (6-12) science and mathematics teachers with the skills needed to:

- ◆ Improve their content knowledge and enhance pedagogical skills in teaching mathematics and science subjects.
- ◆ Prepare for roles as educational leaders in STEM subject areas.
- ◆ Inspire and teach students to be successful in STEM education, thereby increasing the number of individuals capable of filling critically important STEM-related career positions



Offered on USF's St. Petersburg campus

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Size	1 Month		6 Months		12 Months	
	Member	Non-Member	Member	Non-Member	Member	Non-Member
Business Cards	\$25	\$35	\$120	\$150	\$210	\$252
1/4 Page	\$40	\$52	\$190	\$380	\$335	\$402
1/2 Page	\$75	\$98	\$360	\$450	\$630	\$756
3/4 Page	\$110	\$143	\$530	\$663	\$925	\$1,110
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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June 2022 - Calendar of Events (For more information see "Inside the SunCoast Signal" → Page 1)

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
						*Senior Member Roundup →Page 1
5	6	7	8	9	10	11
		*ExCom →Page 1				
12	13	14	15	16	17	18
	*Signal Inputs Due End of Day					
19	20	21	22	23	24	25
						*PES/IAS ExCom →Page 3
26	27	28				