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Upcoming Meetings

Tuesday, May 7, 2019 5:30PM EXCOM Meeting
at TECO Plaza Register online at [http://
time2meet.com/fwcs-excom/index.html](http://time2meet.com/fwcs-excom/index.html)
Open to all FWCS Members

Tuesday, May 21, 2019 The Tampa Bay Bridge to
the Baccalaureate Alliance,

Tuesday, May 21, 2019—Big Data Strategies for
Agile Business

Monday, June 10, 2019—IEEE C37.230 Guide for
Protective Relay Applications to Distribution Lines

Monday, June 28, 2019—Becoming an Independent
Consultant

PE/IA Hosts Outstanding Tour of FPL Babcock Solar Farm and Storage

Event Description:

On Friday, March 29th your PE/IA Chapter hosted a tour of the FPL Solar Farm and Energy Storage at Babcock Ranch. FPL provided an overview of the facilities including the inverters and battery storage units. Each of the 10 energy storage units are rated at 1MW and capable of operating for four hours. After having time to analyze the performance of their existing solar and storage facilities, FPL plans to expand the use of solar, as well as their storage. They recently announced plans for the world's larger battery storage system. The 409-megawatt/900 megawatt-hour FPL Manatee Energy Storage Center is planned to be in operation by late 2021.

This is one of many activities your PEIA Chapter has sponsored and we encourage you to suggest, host, or just attend any of the upcoming Seminars, Meetings, and/or Tours.

Special thanks to Steve Antman for setting up this tour with FPL and to the Rae Dowling from FPL for her help in making this happen.



2019 IEEE EXECUTIVE COMMITTEE - FLORIDA WEST COAST SECTION

CHAIR: Claude Pitts - claudie.pitts@ieee.org

VICE CHAIR: Paul Belussi - paul_belussi@selinc.com

SECRETARY: Sean Denny - venner20@ieee.org, (727) 678-0183

TREASURER: Jim Howard - jhoward@ieee.org, (863) 834-6585

SIGNAL EDITORS: Ralph Fehr - r.fehr@ieee.org,

Donna Howard - amberdon3133@gmail.com

AWARDS & BYLAWS: Richard Beatie, PE - r.beatie@ieee.org

MEMBERSHIP: Jim Howard - j.howard@ieee.org, (863) 834-6585

TEACHER IN-SERVICE: Sean Denny - venner20@ieee.org, (727) 678-0183

Computer / Aerospace & Electronic Systems (**COMP/AESS**) Joint Chapter:
Jim Anderson—jim.anderson@ieee.org (813) 425-2467

Engineering in Medicine & Biology (**EMBS**) Chapter: Sylvia Thomas - sylvia@usf.edu

Microwave Theory & Techniques/Antennas & Propagation/Electron Devices
(**MTT/AP/ED**) Joint Chapter: Jing Wang - jingw@usf.edu

Power & Energy / Industry Applications (**PES/IAS**) Joint Chapter:
Serge Beazile - serge.beazile@ieee.org, (863) 834-6511

Robotics & Automation (**RAS**) Chapter: Sean Denny - venner20@ieee.org,
(727) 678-0183

Signal Processing / Communications (**SP/COMM**) Joint Chapter: Paul Belussi -
paul.belussi.us@ieee.org

WOMEN IN ENGINEERING Affinity Group: Ammara Ghani—ammamamehd@mail.usf.edu

LIFE MEMBER Affinity Group: Richard Beatie, PE - r.beatie@ieee.org

YOUNG PROFESSIONALS: T.J. Ross - a.j.ross@ieee.org, (505) 620-7734

PACE: Jim Anderson - jim.anderson@ieee.org, (813) 425-2467

CONSULTANTS NETWORK: Herman Amaya - hamaya@tampabay.rr.com

STUDENT BRANCH MENTOR: Jim Howard - jhoward@ieee.org, (863) 834-6585

USF STUDENT BRANCH ADVISORS:

Dr. Paul Schnitzler - Student Branch Co-Advisor - pauls@usf.edu, (813) 974-5584

Dr. Andrew Hoff - Student Branch Co-Advisor - hoff@usf.edu

Dr. Srinivas Katkoori—CS Chapter Advisor— katkoori@mail.usf.edu

Dr. Jing Wang—MTT Chapter Advisor—jingw@mail.usf.edu

Dr. Ralph Fehr - PES/IAS Chapter Advisor - r.fehr@ieee.org

STUDENT BRANCH / CHAPTERS:

USF Student Branch, Chair - Iliia Bautista - iliabautista@mail.usf.edu

USF Computer Society Chapter - Vishalini Laguduva Ramnath - vishalini@mail.usf.edu

USF Microwave Theory & Techniques Chapter - Enrique Gonzalez -
enriquegonza@mail.usf.edu

USF Power & Energy/Industry Applications Chapter - Roger Vassell -
vassellr@mail.usf.edu

CONFERENCES: Richard Beatie, PE - r.beatie@ieee.org

WEB PAGE: <http://sites.ieee.org/fwcs/>

WEB MASTER: T.J. Ross - a.j.ross@ieee.org, (505) 620-7734

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Address all correspondence to:

Donna Howard

3133 W Paris Street Tampa, FL 33614-5964

Home Phone: (813) 876-1748 E-mail: amberdon3133@gmail.com

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PE Corner

Art Nordlinger, PE, Senior Member

Engineering Work That Requires Licensure

Section 471.005(7) defines “Engineering” as “any service or creative work that requires engineering education, training, and experience...”. I won’t repeat it verbatim here, as the first sentence alone is 165 words long. The service or creative work includes “...consultation, investigation, evaluation, planning, and design...inspection of construction...work, either public or private in connection with utilities, structures, buildings, machines, equipment, processes, work systems, projects...insofar as they involve safeguarding life, health, or property...”. A mouthful even in summary.

Section 471.033 Disciplinary Proceedings has the board investigate and discipline anyone who practices Engineering or offers Engineering services without a valid license and provides penalties for such activities.

There are some engineering activities that may be performed by someone who isn’t licensed, delineated in Section 471.003(2) of the Florida Statutes. In summary, these include:

Doing work on your own property that would otherwise require a PE, so long as it doesn’t affect the public.

Government employees doing projects valued under \$10,000 and subordinates of government-employed PEs.

Manufactured product design and fabrication.

Engineering work by public utility employees (electric, telecommunications, etc.)

Subordinate employees of PEs assisting in engineering work.

Contractors executing work designed by a PE

Electrical, plumbing air conditioning and mechanical contractors doing projects smaller than certain defined thresholds.

Work done by defense, space and aerospace company employees

College engineering instructor’s teaching activities

However, for engineers whose work falls into these exempt categories, that may not be the whole story in terms of whether they need to be licensed. For example, some companies, though their work is technically exempt, require that an engineer be licensed as a condition for promotion above a certain grade, just as they may require an advanced degree for certain jobs. Or licensure may be a “desired” attribute for a candidate, if not “required”. Having a license may put a candidate for promotion “ahead of the pack” as a result. Many college professors do consulting work in addition to their teaching responsibilities and this may require licensure as well. Thus, even engineers working in “exempt industries” may find that licensure is desirable or even required, even though it isn’t part of their day-to-day work.

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

Leader's Center Volunteer Organizations—Part 2

Paul Schnitzler, Ph.D—Life Senior Member

Last time I asked “How do you lead volunteers?” Find a way to get them to *really want* to help! Here is how a leader can be successful. In this note, I apply a tool I created for introducing change (many articles back) and now use it for leadership. It is the YES I AM model.

The point with change is to get everyone to want to make it a success. The same is true here: get everyone to want the group to succeed. In this note, we will use the first part of the acronym,

YES: Your Passion; Everyone Benefits; Seek Their Ideas.

Go back to the last article where I introduced leading volunteer organizations. I asked you to think about *any* group where you are a member. Most group tasks which were easily accomplished had a volunteer who *wanted* to be leading it! No one had to keep after the leader. How do you find those leaders? By first finding out what the group members actually want the group to do. The risk? These may not be what you want the group to do.

You may have a problem: Which is more important? Get what I want done? Make the group a success? On a good day they will be the same. Note that making the group a success will make *you* a success! So we will start there.

You must be passionate about the group and its purpose—you do or you would not be the leader. Good start.

Everyone will benefit from the group activities; they signed on

didn't they? That will work if you do the right activities--but let's make sure of it.

Seek what *they* want the group to accomplish. What do they think is needed? What would they like to make happen? Leaders are often surprised at what their members are thinking and want to do. They may know of needs that you don't know. Their ideas can be crucial to your success.

What if your ideas are not in the mix? What if some are opposite to what you want? What will happen if your ideas get lost?! Remember your problem from above? Do what I want. Do what the team wants.

Here is the tough part: For you to be a success, you need to get the group to succeed. And they will succeed if they are able to do what *they see* as important!

Now go back to your wish-list, the activities that are important to you that no one seems to care about. They *are* important too. We get to them next month—along with the second half of YES I AM. It will let your team whip you into shape and success.

Watch for more on leadership in engineering (and other) organizations. Need a speaker? Have questions? Ideas? Contact me at pauls@usf.edu or go to <http://leadchangewithoutfear.com/> and click the tab “Successful Real Change.”

Guardian ad Litem Program of Pinellas and Pasco Counties Seeks Volunteer Child Advocates for Abused and Neglected Children

Guardians ad Litem work on a team with professional staff to advocate for children who have been removed from their homes due to neglect or abuse and come under the jurisdiction of the courts often due to parental drug abuse or domestic violence. Guardians ad Litem identify what is in the best interest of the child to the courts by making monthly visits to the child in their current placement to identify what the child's needs are. They work to find a permanent placement for the child. Training is free. To learn more about making a difference to a child visit www.herotoachild.org or call Karen in Pinellas at 727-464-6147, Larnelle in Pasco at 727-727-834-3493 or visit www.guardianadlitem.org for information in other counties. For other ways to help contact our local foundation at AmyF@galf6.org.



IEEE C37.230 Guide for Protective Relay Applications to Distribution Lines

Date: Monday, June 10, 2019

Time: 7:30am-8:00am Registration,
Seminar 8:00AM – 4:30PM (lunch not provided)

Speaker: Thomas Blair, P.E., Senior Engineering Fellow, Tampa Electric Company

CEH Credits: **8 Continuing Education Hours (CEHs)** will be awarded for this seminar. Be sure to provide your name and PE number as it appears on your license. IEEE Florida Provider Number is 0003849.

Course Level: Intermediate.

Cost: Members: \$125 Non-members: \$175

RSVP: Ray Trusik, Florida Electrical Cooperatives Association
850-877-6166 Ext. 3
rtrusik@fecfa.com

Note: *There is no online registration for this event*

Location: Sand Pearl Resort
300 Mandalay Avenue Clearwater FL 33767
<http://www.sandpearl.com>

Questions: Tom Blair at 813-228-1111, ext 48179 or tom_blair@ieee.org

IEEE C37.230 - Guide for Protective Relay Applications to Distribution Lines, was published in 2007 and was revised in 2018. The revised edition is expected to be released in 2019. This seminar will cover the updated version of IEEE C37.230.

The level of difficulty of this course is Intermediate. This course will review the fundamental topics of fault & load characteristics, harmonics and interrupt ratings. We will present the topics of distribution fundamentals, line configurations and various protection schemes for each line configuration while presenting the advantages and disadvantages of these protection schemes. Solutions to identified problems will be discussed and examples presented. We will describe recommended protection criteria and basis behind the various protection philosophies.

The course will present some common special applications of protective relaying such as multiple feeder faults, loop schemes, load shedding philosophies, protection of circuits with distributed energy resources, breaker failure/backup protection, single phase tripping, ground fault protection, and the more recent topic of arc flash hazard calculation.

Regarding arc flash hazard calculations, this course will cover the various methods of determining the incident energy levels and protective clothing requirements utilizing NESC tables and NFPA70E tables and when the tables from these two standards do and do not apply. Additionally, this course will cover arc flash hazard calculations utilizing IEEE 1584 - Guide for Performing Arc-Flash Hazard Calculations. IEEE 1584 was updated in 2018 and this seminar will cover the updated standard for performing Arc-Flash Hazard Calculations utilizing the updated standard. We will also discuss the OSHA (Occupational Safety & Health Administration) requirements for protection of employees from arc flash hazards for utilities.

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.

Young Professionals June Meeting

Becoming an Independent Consultant

Date/Time: Monday, June 28th, 2019 @6:30 pm

Place: TECO Energy, 702 N. Franklin St, Tampa, FL 33625

Description:

Come learn about the benefits of becoming a consultant. How, why, and when to become a consultant, the ins and outs on how to be successful, benefits and advantages of working for yourself, and how to get clients. This talk will be jam-packed with tons of references to paper and videos. The talk will include an overview of IEEE-USA's Alliance of IEEE Consultants Network and the training and support resources it provides to consultants. The audience will be introduced to Mr. Hermann Amaya, the founder, and chairman of the IEEE FWCS Consultant Network Affinity Group and a key member of IEEE-USA alliance with connections at the national level. Important consulting business lessons-learned will be presented along with some very concrete ways to avoid the pitfalls. Included in the presentation is the path consultants use toward more passive income, a form of entrepreneurship.

Speaker:

Mr. Stosic is an independent consultant working in the area of Communication System Design and Development. His consultancy was founded in 1996 and grew to 4 employees to include its own product designs. Early on Mr. Stosic provided direct consulting service to companies such as Rockwell-Collins, Motorola, Harris, and Raytheon on the topic of UHF Military Satellite Communications. Mr. Stosic is a Senior Member of IEEE and the vice-chairman of the IEEE FWCS Consultant Network Affinity Group.

Big Data is all about bringing Value to business. A strategic approach to Big Data is necessary to achieve Agility in business – speed and accuracy of decision-making.

Date: May 21, 2019

Time: 6:00 p.m.—8:30 p.m.

Location: St. Petersburg Yacht Club, 11 Central Avenue, St. Petersburg, FL 33701

Room: Quarterdeck



Fortunately you can learn all about this in a briefing from USF Sarasota-Manatee professor Dr. Unhelkar, an accomplished expert working here in our Tampa Bay area. Dr. Unhelkar will give us an overview of his new book "Big Data Strategies for Agile Business (CRC Press, 2018)." It describes a robust, research-based Big Data Framework for Agile Business. It focuses on the utilization of Big Data in an effective and efficient manner using enabling technologies such as the Hadoop eco-system and key Analytics such as Sentiment, Predictive, and NPS.

Registrations: <https://events.vtools.ieee.org/m/197366>

LIGNELL AWARD WINNERS AT 2019 TAMPA BAY ENGINEERS WEEK BANQUET

The 2019 Tampa Bay Engineers Week Banquet was held at T Pepin's Banquet Hall on February 21, 2019. Pinellas STEM Director Laura Spence, Pinellas Secondary Science Supervisor Lindsey Craven and Math Supervisor Donna DeSena were present to support the Lignell Winners who were Outstanding High School Teachers from Pinellas County.

During the dinner, Master of Ceremonies Dr. Jim Anderson announced the Lignell winners individually. The Committee chose four Pinellas County teachers for the Lignell Award this year which included: Becky Bride (Palm Harbor University High Mathematics), Colby R Bidwell (Boca Ciega High Physics), Jennifer Pacowta (Lakewood High Chemistry), and Tammy Richardson (Pinellas Park High Math).

1) Tammy Richardson-Pinellas Park High School



Tammy Richardson is a math teacher in the Criminal Justice Academy at Pinellas Park High School. Her passion for education is only matched by her drive to get the very best out of her students. Her students consistently rank amongst the highest performers on state assessments. It is difficult to sum up Tammy Richardson in only a few lines. What she does isn't fancy, or complicated. Tammy Richardson, at her very core, is a teacher. She shows up each day and gives her very best to her kids. When passion and drive meet, a learning environment is created that allows every kid to be successful, and that is no small feat.

2) Colby Bidwell, Boca Ciega High



Colby R. Bidwell, is the AP Physics teacher and on the Biology 1 Honors teaching team at The Boca Ciega High School in Gulfport, FL. Colby received a Bachelor's degree in Exercise Science from Florida State University in 2008. In 2014, as a full time teacher, he received a Master's degree in Curriculum and Instruction from the University of Florida. Colby has taught public school for a total of 10 years, 2 of which at the middle grades level. Most faculty, staff, and students on campus call him Coach Bidwell due to his yearlong athletics involvement. Currently, Coach Bidwell is an Assistant swim coach, head boys and girls golf coach, head boys soccer coach, and the head boys tennis coach for the Boca Ciega Pirates. This season his boys soccer team competed for their third consecutive district championship title.

3) Becky Bride-- Palm Harbor University High School



Becky Bride graduated from the University of South Florida with a bachelors and master's degree in Mathematics Education. She has taught mathematics in Pinellas County for 32 years, was department chair of mathematics at Palm Harbor University High School for 18 years, teaches in the International Baccalaureate program, and sponsors Mu Alpha Theta. She has received the Radio Shack National Teacher Award, Toyota Time Grant, GTE GIFT Grant, Bank of America Incubator Grant, Outstanding High School Math teacher, National Board Certification 2003-2013, was finalist for Educator of the Year for Pinellas Schools 2003 and 2013, and is an AP Reader for the College Board. Becky is the author of four published books with cooperative learning and investigative activities for Pre-Algebra, Algebra 1, Algebra 2, and Geometry.

4) Jennifer Pacowta, Lakewood High



Jennifer Pacowta has worked as a science educator with Pinellas County Schools since 1999. Jennifer graduated from Eckerd College with an undergraduate degree in marine science with a focus in biology. When she decided to pursue a career in education, she obtained a master's degree in science education from University of South Florida. She currently teaches chemistry honors and AP chemistry at Lakewood High School's Center for Advanced Technologies in St. Petersburg, FL. Jennifer has taught a range of different science courses, including biology, marine science, environmental sciences, earth science, and anatomy. In addition to her work as a classroom teacher, Jennifer has been an instructional coach, providing job-embedded professional development to science teachers.

ROBOTICS AND AUTOMATION UPCOMING MEETINGS:

MAY 21: The Tampa Bay Bridge to the Baccalaureate Alliance (TB-B2B) (RESCHEDULED) ---

TB-B2B represents a partnership of three public, post-secondary institutions in Tampa Bay, Florida: St. Petersburg College (lead institution), Hillsborough Community College and State College of Florida Manatee-Sarasota, with informal partnership from the University of South Florida (USF) system, an existing Louis Stokes Alliance or Minority Participation (LSAMP) Alliance member. The TB-B2B Alliance's overarching mission is to significantly increase the number of underrepresented minority students transferring to four-year baccalaureate programs in Science, Technology, Engineering, and Math (STEM). With a baseline of 425 underrepresented minority (URM) students across all Alliance institutions transferring to 4-year STEM programs in 2015-2016, the program seeks to increase transfers by 50% over the three year grant period, transferring a total of 212 additional students into a STEM baccalaureate program. The Alliance builds on existing partnerships and program supports, providing dedicated student advising, peer connections, STEM-focused activities, faculty mentoring and defined articulations between Florida College System partners and USF baccalaureate programs. From this foundation, the Alliance works to develop an educational pipeline that engages URM students from elementary and secondary school through post-secondary enrollment, associate degree attainment, and transfer to a STEM baccalaureate program offered at Alliance institutions or to other 4-year colleges and universities. The Alliance will facilitate program success by meeting the following goals: 1) Increase the number of URM students enrolling in STEM programs of study; 2) Increase URM student retention, persistence, and completion in STEM programs of study; 3) Increase URM student math literacy using evidence-based academic supports; and 4) Increase the number of URM students matriculating into STEM Baccalaureate degree programs. Thanks.

Kelliann Ganoo

Student Transfer Specialist

Tampa Bay Bridge to Baccalaureate (TB-B2B)

St. Petersburg College | EpiCenter

To celebrate the History of IEEE FWCS RAS chapter in a Photo Gallery, Please visit http://sites.ieee.org/fwcs/?page_id=673.

ROBOFEST 2019—March 23, 2019



Sean Denny and Emma Alaba did preparations for the Robofest competition. Mike Okneski and Russell Grieshop judged the game.

The robots had to move or stack white or black blocks within a two-minute range. Russell Grieshop, John & Roxanne Reznor were the principle judges for the first and second round. Thirty two teams came for the RoboParade. Pinellas STEM Director Laura Spence was testing a new Pilot robot to use called M-Bots 2.0 for the RoboParade. A group of young ladies built a mini-

robot CARE-BOT to handle Health Care. Several Schools won the trophies and the opportunity to go to the World Competition in Michigan. The Clearwater Library won a special award at the conclusion. Emma announced the winners: Teams advancing to Virtual Regional:

Junior Game

1st Place 1752-2 Universe Unknown

2nd Place 1752-3 Flaming Forklift

Sr Game

1st Place 3223-2 lionbot

More winners on the RAS Website: http://sites.ieee.org/fwcs/?page_id=117.

Sr Exhibition_3273-2 P.I.N.K Innovators (submit Online Video Qualifier Submission – deadline April 22).

RoboParade

3055-1 123 Find Me

3263-1 Bibliobots: Eureka!

3263-2 Bibliobots: Under the Sea

3273-1 Bot Warriors

Helping Hands Award: Bibliobots: Eureka

DevOps Meeting Was A Success!

The IEEE FWCS Computer Society and the Consultant's Network hosted a meeting to discuss DevOps on Wednesday, April 10, 2019. This meeting was a panel session in which four technical professions shared their real-world experience with implementing DevOps in a variety of different production environments. The panel consisted of the following members:

James Gress: James is a DevOps leader with 25+ years of experience in software delivery. He currently runs a global team specializing in implementing continuous integration and continuous delivery across multiple industries, technologies, and software platforms. He is experienced in software architecture across multiple software languages, supporting custom software developer tools, and custom automation tools on new and legacy platforms.

Dmitry Melanchenko: Dmitry Melanchenko works for Salesforce.com and runs a DevOps Meetup group in Tampa.

Om Hemant Patel: Om Hemant Patel is an avid agilist with over 20 years of technology experience in various industries from consulting, healthcare, telecommunications and digital content management. After an early career in traditional project management, he has been helping clients such as atex, Disney, Ernst & Young and PwC with enterprise agile transformation. His professional experience spans the US, Canada, LatAm, Europe, the Middle East, Asia and Australia.

Dan Williams: Dan Williams is a Senior Principal Software engineer at Raytheon with 28 years of experience in the computer science field across DOD and NASA. Mr. Williams has been involved with Agile / Lean since the early 2000s and is a certified Scrum Master and certified instructor for various agile courses. He is currently the Agile Lead for the Cooperative Engagement Capability program applying Scaled Agile and DevOps.

The meeting was well attended and many questions were asked. A video of the event was created and can be viewed online at: <https://youtu.be/P3vW8lhjNXM>

Free April E-Book Offers Commonsense Guide for Developing People

APRIL FREE E-BOOK: Secrets to Being a World-Changer – Part 2: The Doing of Leadership

From 1 April through 15 May, IEEE members may download this e-book for free. Simply add the book to your cart, log-in with your IEEE account, and apply promo code APRFREE19 at checkout. An audio version (MP3) of this eBook is also available.

How do you move an idea off the drawing board and bring it to life? Two engineers who have devoted the past few years to turning dreams into reality are sharing their passion for innovation — and their experiences at achieving success — with others who want to dream big. IEEE Members Jonathan Chew and Leo Szeto offer readers Part 2 of their e-book series that provides individuals working in any discipline with valuable insights on how to lead and implement change.

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May Calendar of Events (For more information see P. 1) in this Signal...

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