

## 02 The Chairman Corner



IEEE CTS Chairman

Fawzi Behmann

During the month of February, variety of activities were carried out not only aimed to enrich the members with knowledge and intriguing topic for Central Texas Section chapters and affinity groups but also in advancing preparation of special events for the year and new approaches of reaching out to the local community, and beyond.

## 07 IEEE Member Development

### NOT AN IEEE MEMBER AND HAVE BEEN WAITING TO JOIN?

Join now with ½ year dues! Join IEEE and receive 10 months of membership for the price of six. If you have been away from IEEE for more than a year, you can re-join for half price! [www.ieee.org/join](http://www.ieee.org/join)

### HAVE YOU RENEWED YOUR IEEE MEMBERSHIP FOR 2019?

It is easy to forget and easy to put off. If you haven't renewed your IEEE membership, or don't know if you have, go to [www.ieee.org/renew](http://www.ieee.org/renew) NOW and find out or simply call 800 678-4333. Beginning this past week, non-renewing IEEE members lost all member benefits. Renew now and restore your IEEE benefits and don't miss out on the CTS events coming up in the Austin/San Antonio area. If you have already renewed, thank you for being part of the Central Texas Section and the IEEE, the world's largest technical professional association.

## 08 IEEE Texas Technical Tour - 2019

Planning ahead, an IEEE Texas Technical Tour is being organized by the San Antonio Life Member Affinity Group (LMAG) of the Central Texas Section and Region 5.

## 09 IEEE CTS EVENTS

Come and see our section events.



# The Chairman Corner

Chairman, IEEE Central Texas Section

Fawzi Behmann

[f.behmann@ieee.org](mailto:f.behmann@ieee.org)

During the month of February, a variety of activities were carried out not only aimed to enrich the members with knowledge on antiquing topics for Central Texas Section chapters and affinity groups but also in advancing preparation of special events for the year and new approaches of reaching out to the local community, and beyond.

Among the special activities carried out in February include:

- **BDYHAX Conference:** Central Texas Section (CTS) support of the Bodyhacking conference (BDYHAX) held February 23-24 in Austin with over 200 in attendance. BDYHAX provided two days of talks and workshops from national and international speakers on wearable and implantable tech, brain-computer interfaces, prosthetics, gene therapy, bioethics, cyborg art, and the newest research in human body oriented technology. CTS had an exhibit and information and material about IEEE mission, engineering biomedical, benefits and local activities.
- **Interview on “How Will 5G Impact Smart Ecosystems?”**  
As we continue collaborating with other associations promoting the advancement of technology in serving the local community and beyond, I was invited to have an interview talking about the state of the art of 5G and impact on cities and ecosystems. The interview touched on some key topics: what 5G is all about and How will 5G affect our everyday? 5G Ecosystem, players and preparation for 5G, call for early engagement by businesses and government, and key takeaways. The paper is now published in multiple places for wider distribution: Smart Cities Connect, Austin CityUp, Austin Forum, and Digi.city.

**5G**

**5G CONNECTING THE COMMUNITY**

**HOW WILL 5G IMPACT SMART ECOSYSTEMS?**

5G is not just about technology but also about the ecosystem that provides interoperability and end-to-end solutions.

Service providers must make critical architectural decisions to optimize network hardware/software infrastructure for the high-capacity, low-latency traffic demands of 5G, IoT, and an array of edge-based applications. In addition, they face the challenge of applying innovative technologies like network slicing, virtualization (SDN/NFV), and micro data centers to achieve desired results.

To have access to the article, please check <https://smartcitiesconnect.org/how-will-5g-impact-smart-ecosystems/>  
The article is now available on the IEEE Central Texas Section website.

- Participation at 2019 Himss/IHP - Advancement of technology in Healthcare
- IEEE for several years contribute with articles, speaking and organizing segment focusing of IoT for Healthcare. This year Himss was held in Orlando, February 11-15 with over 40,000 in attendance. Himss19 featured Intelligent Health Pavilion hosted by Intelligent Health Association. The pavilion focuses on connected technologies bringing medical community & experts showing the future technology at present. The pavilion had two theaters that provided antiquing topics. F. Behmann (shown in the picture) gave a presentation and delivered a paper on the subject of "Collaborative IoT, 5G, AI Empowering Smart Healthcare Solutions". Below is a photo about 2019 Himss/IHP



## From Hospital to Home - Integrating the Patient Experience



## A. 2019 Special Events

In the development is organizing three events focusing on technology and applications supported by the IEEE Communications Society

1. Disruptive technologies for smart mobility
  - Explore transformation from ADAS-Advanced Assisted Automated System to Full Autonomous Vehicles with AI/ML
  - Tentative timeframe: May/June
2. Disruptive technologies for smart Healthcare
  - Explore transformation to smart health and wellness. Diagnosis, treatment, and prevention. Smart hospitals/telehealth/Telemedicine.
  - Tentative timeframe: September
3. Disruptive technologies in building a smart city
  - Highlight advancement and disruptive technologies such as IoT, 5G, Analytics, Blockchain and security and their impact in building smart cities. Provide a set of use cases and potential challenges.
  - Tentative timeframe: November

If you like to volunteer and be a part of these initiatives, then please send an email:  
Subject: 2019 Special Events  
To: [f.behmann@ieee.org](mailto:f.behmann@ieee.org)

## **THIS MONTH'S EVENTS**

### B. March 2019 Meetings, and Tech Tours

Please consult the remaining part of this newsletter and consult the calendar of events at the Section website <http://sites.ieee.org/ctx/>

Among the topics of interest for meetings and workshop:

- IEEE The Annual Review of the ISSCC Conference: Analog and RF  
Mar. 5, 6-8:30 pm
- IEEE QUANTUM COMPUTING AND THE QUEST FOR COMPUTATIONAL SUPREMACY  
March 8 @ 1:30 pm - 3:00 pm
- IEEE IEEE PI2 Austin, March 2019, ChapComm, Officers Meeting  
March 14 @ 11:55 am - 1:30 pm
- IEEE ComSoc & SP, EMBS & Computer, APP/MTT, and IM Chapters – Austin, IEEE Special session on “Underground Sensor Network for Water Pipe Leakage Detection.”  
March 14 @ 6:00 pm - 8:00 pm
- IEEE ComSoc & SP San Antonio “IPv6: It’s All Around Us”  
March 19 @ 7:00 am - 8:30 pm
- IEEE PI2 Austin, March 2019, Tech Meeting, “Dynamic Stability on the ERCOT Transmission System”  
March 26 @ 6:30 pm - 8:30 pm
- IEEE PES Grounding for Electrical Engineers Workshop  
March 27 @ 8:00 am - March 28 @ 5:00 pm
- Advanced Power Generation and Energy Storage – San Antonio PES  
March 28 @ 6:00 pm - 8:00 pm

## **THIS MONTH'S EVENTS**

### **C. 2019 Green Technologies Conference, La Fayette, April 3-5**

## 2019 Green Technologies Conference

April 3-6, 2019

**DoubleTree by Hilton Lafayette**

1521 W Pinhook Rd  
Lafayette, LA, 70503-3158

**BOOK YOUR DISCOUNTED ROOM**

*Hotel Discount rate expires March 20*



The IEEE Green Technologies Conference (IEEE GreenTech) was conceived to address one of the most pressing challenges of our time – How do we provide the reliable energy demanded by an environmentally sensitive world using energy resources in a sustainable and environmentally responsible manner.

Green and clean energy sources added to energy mix do provide challenges to the energy grid operators requiring active management of the available energy sources to provide a resilient power grid. The 11th Annual IEEE Green Technology Conference hopes is to draw insights and encourage collaboration from the many disciplines and the industrial collaborators required to address these challenges. The conference will be held at DoubleTree by Hilton that offers complimentary self-parking and is close by the Lafayette Airport using complimentary bus service.

Registration is now open <https://ieeegreentech.org/registration/>

For any inquiries, please contact [d.pierce@ieee.org](mailto:d.pierce@ieee.org), General Chair

### **D. STEM Conference for High School Students, Cockrell School of Engineering, April 6, Austin**

IEEE Central Texas Chapter in conjunction with UT Austin's Cockrell School of Engineering is putting together a one day workshop that will have a series of lectures/demonstrations/activities by faculty and industry experts on several engineering and science topics. These lectures are tailored for high school audience and are intended to make attendees aware and be inspired for current and future opportunities in the various fields of engineering and science.

Lunch is included, Need to RSVP at <https://events.vtools.ieee.org/m/194087>

### **E. 2019 IEEE Women in Engineering International Leadership Conference (WIE ILC), May 23-24, Austin**

We are pleased to announce that WIE ILC conference will be held this year in downtown Austin.

Date: May 23-24, 2019

Location: JW Marriott, Austin, Texas, United States

With a focus on mid-to-senior, technology professionals, IEEE WIE ILC brings together female and male STEM leaders from around the world interested in advancing women leaders. IEEE WIE ILC provides an incredible opportunity for your organization to develop your technical staff, recruit professionals and support women in engineering and technology.

Exhibiting organizations have the ability to showcase their leading-edge technology. Prominent industry leader presentations will inspire IEEE WIE ILC attendees, who will have the opportunity to create communities that fuel innovation, facilitate knowledge sharing and provide support. Sign up today for one of the many opportunities or contact us to discuss a package customized to your company's needs!

[Partnership Prospectus Link](#)

Conference Registration is now open: [Attendees & General Registration Homepage Link](#)

e-mail: [partners@ieee-wie-ilc.org](mailto:partners@ieee-wie-ilc.org)

General inquiry: [contact@ieee-wie-ilc.org](mailto:contact@ieee-wie-ilc.org)

## F. Special IEEE based events during SxSW



### Sample of IEEE TECH FOR HUMANITY SERIES

March 9, 2019, 9:30 am – 10:30 am  
*“Two Choices for Humanity’s Digital Future”*  
Katrinya Dow, Founder & CEO, Meeco  
Location: Fairmont – Manchester EFG  
<https://schedule.sxsw.com/2019/events/PP90966>

March 9, 2019, 11:00 am – 12:00 pm  
*“Prioritizing Play in an Automated Age”*  
John Cohn, IEEE Fellow & IBM Fellow  
IBM-MIT AI Lab  
Location: Fairmont – Manchester EFG  
<https://schedule.sxsw.com/2019/events/PP88096>

March 10, 2019, 12:30 pm – 1:30 pm  
*“Empathetic Technology and the End of the Poker Face”*  
Poppy Crum, Dolby Lab  
Location: Fairmont – Manchester EFG  
<https://schedule.sxsw.com/2019/events/PP87415>

March 10, 2019, 5:00 pm – 6:00 pm  
*“A Magic Leap for (Virtual) Humanity: AI and Autism”*  
Arno Hartholt, USC Institute for Creative Technologies  
Skip Rizzo, USC Insitiute for Creative Technologies  
Nicole Samec, Magic Leap  
Location: Fairmont – Manchester AB  
<https://schedule.sxsw.com/2019/events/PP87404>

### IEEE CTS Outreach HUMANITY SERIES

March 14, 2019, 6:00 pm – 8:00 pm  
*“Underground Sensor Network for Water Pipe Leakage Detection”*  
Semih Aslan, PhD, Assoc. prof. & Lab Director, Texas State University  
Location: AT & T Labs, Arboretum  
<https://meetings.vtools.ieee.org/m/194247>

## G. We’d like to hear from you

If you have an idea, suggestion, question or you like to volunteer, then please send an email to Fawzi Behmann, Chair, at [f.behmann@ieee.org](mailto:f.behmann@ieee.org).

Thank You,

Fawzi Behmann



## Member Development

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If you have already renewed, thank you for being part of the Central Texas Section and the IEEE, the world's largest technical professional association.

### **Did you know about IEEE – E-Books from IEEE Press?**

The IEEE Press has partnered with John Wiley, Inc. to provide 240+ books, which are available to member at no additional cost. The e-book collection spans a number of today's technologies across 19 content areas, and include:

- Practical handbooks;
- Introductory and advanced texts
- Reference works
- Professional books

IEEE is committed to serve the needs of practicing engineers and members from industry. The value of this benefit grows ever year the member renews. IEEE Press will be adding 40-50 books annually.

Access your E-Books by logging on to IEEE Xplore (<http://www.ieeexplore.ieee.org>) using your MyIEEE account. Select Books and you begin browsing.

### **IEEE Member Discounts – Have you see what's available now?**

Visit the Member Discounts page at [www.ieee.org/discounts](http://www.ieee.org/discounts) to discover this added perk of IEEE Membership.

Joe Redfield  
CTS Membership Development Chair  
[J.Redfield@ieee.org](mailto:J.Redfield@ieee.org)  
210-744-2968

# IEEE Texas Technical Tour - 2019

**P**lanning ahead, an IEEE Texas Technical Tour is being organized by the San Antonio Life Member Affinity Group (LMAG) of the Central Texas Section and Region 5.

**Registration:** <http://sites.ieee.org/ieee-tx-technical-tour/>

**vTools:** <https://events.vtools.ieee.org/m/178799>

**Questions:** [s.atkinson@ieee.org](mailto:s.atkinson@ieee.org)

Texas is the home to a number of centers of technical excellence of national importance, as well as several key IEEE historical awards including Milestones celebrating technological breakthroughs or turning points. These will form the basis for a number of technology-oriented visits throughout Texas organized by the San Antonio Life Member Affinity Group (LMAG) of the Central Texas Section, Region 5 of IEEE.



The Tour, limited to 50 guests, is scheduled for mid Oct 2019 and will consist of a 10-day bus tour to significant technical sites planned in Houston, San Antonio, Austin, Waco and Dallas. Cultural and historical sites will also be included along with many social events with local IEEE members. Most meals, plus all transportation, entrance fees and gratuities are included in one price per person.

## Cities:

- HOUSTON, TX
- SAN ANTONIO, TX
- AUSTIN, TX
- WACO, TX
- DALLAS, TX

We have vTools registration is now officially open.

Please check vTools registration Link <https://events.vtools.ieee.org/m/178799>

Questions should be referred to me at [s.atkinson@ieee.org](mailto:s.atkinson@ieee.org).

# IEEE CTS MARCH 2019 EVENTS

## 5 The Annual Review of the ISSCC Conference: Analog and RF

**Time:** 6:00 pm - 8:30 pm -- **MORE INFO AND REGISTRATION:** <https://events.vtools.ieee.org/m/193673>

This is a summary of the analog and RF papers presented at this year's ISSCC. The summary will be provided by Dr. Axel Thomsen and Dr. Ramin Poorfard.

### Speakers:

**Dr. Ramin K. Poorfard (RF Review)** received his Ph.D. from University of Toronto in 1995. Consequently, he joined Bell Labs in March of 1995 where he was involved in the GSM base-band product development for cellular phones. In 1999, he was promoted to the rank of Distinguished Member of Technical Staff. In July of 2000, he joined Silicon Laboratories Inc. in Austin TX where he worked on ADSL products and more recently on Satellite receiver front ends. Since, Jan. 2007, Dr. Poorfard was promoted to the rank Principal Designer managing the design of Satellite receiver line of products. Dr. Poorfard's interests are RF IC architectures and their building block integrations as well as mixed-signal design.

**Axel Thomsen (Analog Review)** was born in Hamburg, Germany on 1/16/65. He attended the Polytechnical University of Braunschweig, Germany, from 1984 to 1988. From 1988 to 1992 he attended Georgia Institute of Technology, where he received his Ph. D. in Electrical Engineering in the area of analog IC design. From 1993 to 1995 he was Assistant Professor at the University of Alabama in Huntsville. From 1995 to 2001 he was a design engineer and manager at Cirrus Logic in Austin where he worked on high resolution data-acquisition ICs, ADCs, DACs and amplifiers. He was then a Fellow at Silicon Laboratories, where he has worked on low jitter timing circuits, PLLs, power and isolation ICs and MCUs. He is now a Fellow at Cirrus logic. Occasionally he teaches analog IC design at UT Austin. He holds about 40 patents and has published 20 papers. He is the chair of the Analog Subcommittee at ISSCC.

### Location:

201 East 24th St  
Austin, Texas  
United States 78712  
Building: ACES (or POB) 2.402  
Room Number: 2.402

## 08 Quantum Computing and the Quest for Computational Supremacy

**Time:** 1:30 pm - 3:00 pm -- **MORE INFO AND REGISTRATION:** <https://events.vtools.ieee.org/m/191491>

**Presenter:** Scott Aaronson is David J. Bruton Centennial Professor of Computer Science at the University of Texas at Austin. He received his bachelor's from Cornell University and his PhD from UC Berkeley, and did postdoctoral fellowships at the Institute for Advanced Study as well as the University of Waterloo. Before coming to UT Austin, he spent nine years as a professor in Electrical Engineering and Computer Science at MIT. Aaronson's research in theoretical computer science has focused mainly on the capabilities and limits of quantum computers. His first book, Quantum Computing Since Democritus, was published in 2013 by Cambridge University Press. He's received the National Science Foundation's Alan T. Waterman Award, the United States PECASE Award, the Vannevar Bush Fellowship, the Tomassoni-Chisesi Prize in Physics, and MIT's Junior Bose Award for Excellence in Teaching.

### Location:

University of Texas at San Antonio  
One UTSA Circle  
San Antonio, Texas  
United States 78249  
Building: John Peace Library (JPL), Room Number: 4.04.22 Assembly Room

## 14 IEEE PI2 Austin, March 2019, ChapComm, Officers Meeting

**Time:** 11:55 am - 1:30 pm -- **MORE INFO AND REGISTRATION:** <https://events.vtools.ieee.org/m/193227>

**Topic:** IEEE PI2 Austin, March 2019, ChapComm, Officers Meeting

**Location:**

Room: Private Dining Room  
1101 South Mopac Expressway  
IHOP Restaurant  
Austin, Texas  
78746

## 14 IEEE ComSoc & SP , EMBS & Computer , APP/MTT and IM Chapters – Austin, special session on “Underground Sensor Network for Water Pipe Leakage Detection”

**Time:** 6:00 pm - 8:00 pm -- **MORE INFO AND REGISTRATION:** <https://events.vtools.ieee.org/m/194247>

IEEE CTS Austin ComSoc & Signal Processing, EMBS & Computer , APP & MTT and IM chapters

**Topic:** Underground Sensor Network for Water Pipe Leakage Detection”

The availability of clean drinking water is one of the challenges that needs to be addressed today and will be a continuing challenge over the next few decades. The State of California declared a state of emergency when there was a water shortage due to drought in recent years. Many emergency responses were implemented to address this crisis such as water usage restrictions, fog catching, wastewater recycling, atmospheric water generation, and groundwater drilling. One of the biggest problems that contributes to the waste of water happens underground when water is distributed from a distribution center to users. California loses up to 228 billion gallons of water annually due to pipe-related losses. This amount of water is more than enough to provide water to Los Angeles for one year. There are two underground water leakages such as Pipe Burst and Pipe Leakage.

Pipe leakage problem is one of the most difficult to identify and repair due to identifying and locating the leak. Similar to pipe burst, a pipe leakage can be caused by pipe aging, improper pipe connections, and tree roots. This type of water loss is most difficult to identify due to the size and location of the leak. This work focuses on a sensor network that can detect, locate and report a leak effectively. Wireless Sensor Networks (WSNs) consist of wireless devices that are either installed above the ground or buried under dense soil or placed in any underground spaces. WSNs have an immense future to impact on diverse applications including leak detection in water, oil and gas pipelines. Any leak in the pipe can trigger significant financial losses and possible environmental damages. A laboratory-based test bench system has been designed and developed to collect real-world datasets from sensors using a wireless sensor network.

**Speakers:** Semih Aslan, Texas State University

Dr. Semih Aslan received a B.Sc. degree in electrical engineering from Istanbul Technical University in 1994, M.Sc. degree in electrical engineering from Illinois Institute of Technology in 2003, and Ph.D. degree in computer engineering from Illinois Institute of Technology in 2010. He has worked as a Senior FPGA Design Engineer with the Motorola LTE Division and as a post-doctoral researcher at Illinois Institute of Technology. He joined the Ingram School of Engineering at Texas State University in 2011, where he is currently an Associate Professor. Dr. Aslan is the founding director of the System Modeling and Renewable Technology (SMART) Lab. He currently advises graduate students on green energy, system design and data analysis projects and has numerous publications. He is a Senior IEEE member.

**Location:**

9505 Arboretum  
Austin, Texas  
United States 78729  
Building: AT&T Labs  
Room Number: #220

## 19 IPv6: It's All Around Us

**Time:** 7.00 pm - 8:30 pm -- **MORE INFO AND REGISTRATION:** <https://events.vtools.ieee.org/m/193780>

**Topic:** "IPv6: It's All Around Us"

**Abstract:** " Since the beginnings of time, humans have always had the instinct to communicate. In 2019, to communicate equates to some form of a digital transaction. To make it pervasive, we have had to evolve it by making constant changes and optimizations such as IPv6. In this presentation, we will learn about the basics of IPv6, the underlying technologies that make it work, and demo where we can find it in the world around us.

**Speaker:**

Jeffrey Handal of IEEE Standards Coordinator

**Bio:** Jeffrey Handal is a Consulting Systems Engineer for Cisco Systems and is a valuable member of the Cloud Networking Group. He completed his Bachelors and Masters degrees in Electrical Engineering from Louisiana State University (LSU). Before joining Cisco, Jeffrey was a very active customer always pushing the envelope designing and maintaining networks with new technologies, testing new protocols, and providing Cisco and others a large scale testbed for new products, features, and functionality. Currently, he plays an active role in several Cisco groups such as TACops, IPv6 Ambassadors, and Meraki.

Outside of work, Jeffrey is an active pilot volunteering for search and rescue operations; he sits on several boards within IEEE; volunteers to teach networking classes in third world countries; and promotes STEM for women and minorities. In addition, Jeffrey serves the public through his participation in conferences and standards bodies (IETF, IEEE); speaking at local and international events (Internet2, CANS, Globecom); contributing to and reviewing publications. He is a big promoter of technological change for the betterment of humanity.

**Location:**

St. Marys University  
One Camino Santa Maria  
San Antonio, Texas  
United States 78228  
Building: University Center

## 19 IEEE Life Member Austin – 19 Mar 2019 Meeting- Running Reliably: The World Through the Lens of a Globetrotting Reliability Engineer

**Time:** 6.00 pm - 8:00 pm -- **MORE INFO AND REGISTRATION:** <https://events.vtools.ieee.org/m/193840>

**Topic:** Running Reliably: The World Through the Lens of a Globetrotting Reliability Engineer

**Speaker:** Cheryl Tulkoff, National Instrument

Cheryl Tulkoff has over 20 years of experience in electronics manufacturing focusing on reliability and failure analysis. She is passionate about applying her unique background to accelerate product design and development while saving time, optimizing resources, and improving customer satisfaction.

She earned a Bachelor of Mechanical Engineering degree from Georgia Tech and a Master of Science in Technology Commercialization (MSTC) program at the University of Texas at Austin.

**Abstract:**

K Traveling and working outside the US provides incredible opportunities to observe how other countries and cultures achieve reliability. Because reliability requires both people and objects to function well for a certain time under specific conditions, it means quite different things in different places! Politics, geography, culture, climate, and society norms all influence how reliability is defined, perceived and achieved.

**Location:**

2121 West Parmer Lane @ Lamplight Village St.  
Austin, Texas  
United States 78727  
Building: Pok-e-Jo's BBQ Rest

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## IEEE PI2 Austin, March 2019, Tech Meeting, “Dynamic Stability on the ERCOT Transmission System”

**Time:** 6:30 pm - 8:30 pm -- **MORE INFO AND REGISTRATION:** <https://events.vtools.ieee.org/m/193020>

**Topic:** “Dynamic Stability on the ERCOT Transmission System”

**Abstract:** As the ERCOT grid evolves, new stability challenges are emerging. In a system characterized by high penetrations of inverter-based resources and series compensated lines, innovations in modeling and simulation techniques are required to evaluate system stability and ensure reliability.

**Speaker:** John Schmall

John Schmall received a Bachelor of Science degree in Electrical Engineering from Rose-Hulman Institute of Technology in 1991. After receiving his degree, he worked for Commonwealth Edison in Chicago, IL where he completed assignments in both distribution design and transmission planning. He joined ERCOT in 2005 where his responsibilities have included dynamic analysis and modeling associated with wind integration, compliance with NERC standards, voltage stability, and underfrequency load shedding program assessments. He is a senior member of the Institute of Electrical and Electronics Engineers (IEEE) and a Registered Professional Engineer in the State of Illinois.

**Location:**

2700 West Anderson Lane  
Austin, Texas  
United States 78757  
Building: Cover 3

27/28

## Grounding and Protection Requirements for Electrical Engineers Workshop (2-day Workshop)

**Start Time:** 8:00 am - 3/27/2019

**End Time:** 5:00 pm - 3/28/2019 -- **MORE INFO AND REGISTRATION:** <https://events.vtools.ieee.org/m/184757>

**Topic:** “Grounding and Protection Requirements for Electrical Engineers Workshop”

This two-day workshop will provide educational instruction for electrical engineers and electricians. Fundamentals around grounding will be covered as well as ground fault protection and detection, ground-fault currents, ground grid testing, and NEC 2017 related requirements important for the design engineer. Practical and theoretical instruction for electrical engineers will be presented to help increase the likelihood of proper system design for performance and compliance with the NEC grounding and bonding requirements. The Workshop is formatted for Electrical Engineers and Designers of electrical systems which are governed by the NEC, and is highly recommended as a review supplement for those preparing to take the Electrical P. E. exam. In addition, there will be exhibits by industry manufacturers and suppliers.

The workshop fee includes breakfast tacos, breakfast beverages, break refreshments, and a copy of Soares Book on Grounding and Bonding, 13th Edition. Door prizes will be offered.

Attendees are advised to bring a laptop, an engineering calculator, and a copy of the 2017 NEC, either electronic or paper.

**Early registration and discounted pricing ends on March 7th.**

**Registration and payment for this workshop must be completed by Wednesday 3/20/2019, 11:59 PM to ensure you will have the class materials in time for the workshop.**

**Monday 3/25/2019, 11:59 PM is the final day for registering.**

**Location:**

207 W. 18th Street  
Austin, Texas  
United States 78701  
Building: Austin Scottish Rite Theater

## 28 Advanced Power Generation and Energy Storage – San Antonio PES

**Time:** 6:00 pm - 8:00 pm -- **MORE INFO AND REGISTRATION :** <https://events.vtools.ieee.org/m/182617>

PES San Antonio Monthly meeting - Advanced Power Generation and Energy Storage

**Topic:** “ Advanced Power Generation and Energy Storage”

**Abstract:** R&D activities in supercritical CO<sub>2</sub> power cycles, and he was also going to include advanced coal combustion/power plants and chemical/thermal energy storage.

**Speaker:** Dr. Tim Allison of SwRI

### **Agenda:**

6:00 PM to 6:30 PM Registration

6:30 PM to 7:00 PM Meal

7:00 PM to 8:00 PM Speaker

### **Location:**

Room: Meeting room

Bldg: Gradey's BBQ

4109 Fredericksburg Rd

San Antonio, Texas

78201