January 2020 Newsletter

Message from the Chairman

A. From the Central Texas Section Chair

A.1 Year End Message from Fawzi Behmann

This is my final note to you as Section Chair. I turn over the reins to the new CTS Section Chair for 2020-2021 Dr. Larry Larson.

I'd like to take this opportunity to thank the Central Texas Leadership team, appointed officers and coordinators for their dedicated work that collectively advanced the agenda of the Central Texas Section and implemented many of the initiatives outlined in 2018-2019 Strategic Plan.

It was great to conclude the year with the great first-quality and successful IEEE Summit on Smart Cities held in Austin November 1. The summit report was presented to the ComSoc Industry Board and was received with great appreciation. Also, we concluded the year with special appreciation dinner awarding 10 members with Achievement and Outstanding Service Awards.

Several individuals traveled from Austin and San Antonio, including Scott Atkinson and Fawzi Behmann, to attend Globecom 2019 committee meetings held in Hawaii. In addition, a special, well-attended Industry Panel was held December 11 on "Disruptive Technologies and Use Cases: Building Blocks Towards the Smart City". The panel was co-chaired by Fawzi Behmann (TelNet Management) and Stan McClellan (Texas State) and included panelists Semih Aslan (Texas State), Tel Lehr (City of Austin), Michael Stricklen (EY-Parthenon), Eric Thorn (SWRI), Ted Tiedemann (Qualcomm), and James Kimery (National Instruments).

In other news, as reported earlier in the year, the Central Texas section has 44 growing counties. To manage the growth, several CTS leaders from San Antonio proposed to split the counties into two parts; one part (19 Chapters/Affinity Groups and 6 Student Branches/Chapters) to remain as Central Texas Section and the remaining territory formed as a new Lone Star Section (8 Chapters/Affinity Groups and 3 Student Branches). The IEEE MGA Board approved the recommendation on November 23. The smaller territories bring about great opportunities for growth in both sections. **Congratulations to all!**

I'm also pleased that I'll be starting new responsibilities by being nominated by the President of the Communications Society and now approved by the ComSoc Board of Governors to be the Regional Director for North America for the period 2020-2021 as well as being selected to be 2020-2021 Distinguished Lecturer for the Society. On a final note, I'd like to report that the ComSoc Conference Steering committee has awarded the WCNC-Wireless Communications and Networking Conference for 2022 to Austin. Preparation work has already begun.

Fawzi Behmann
Chairman, IEEE Central Texas Section (2018-2019)
f.behmann@ieee.org

A.2 Introduction to and New Year's Greetings from Larry Larson:

My Thanks to Fawzi for his dedicated service and leadership over the last two years! I am Larry Larson, incoming CTS Chairman for the next two years. By way of introduction – I came to IEEE by way of its utility in my 27-year career in the Semiconductor industry. I attended the occasional Electron Device Society meeting and regularly attended their IEDM and VLSI meetings. In that period, I primarily worked at SEMATECH and, before that, National Semiconductor. In 1996, I brought the Ion Implantation Technology Conference to Austin in what was one of the most successful meetings of this series.

This was all pretty much passive participation; that changed in 2009 when I "retired" to Academia. In addition to my teaching duties, I was asked to help create the Texas State University IEEE Student Branch. These students are amazing in their energy and creativity!! In short order, we attended out first R5 Conference and found that the Central Texas Section would happily use our facilities for their 2X/year ExCom meetings. Over time, I was asked to serve as Student Activities Coordinator for CTS, enlarging the scope of my support of the next generation of Engineers and also enlarging my enjoyment in their activity and accomplishments.
When I was asked to stand for election as Chairman, I saw this as an opportunity to both further support our students and to build the Chapters by enabling communication between all the parties. There is SO much activity in the CTS overall that it boggles the mind. I am hoping to bring this more and more to our student generation and also to bring energy and excitement to us older members through the interaction with the newest generation!

Of course, I am not the only person elected to serve in the coming years. I would like to express my gratitude and advanced apologies to the CTS officers elected to serve with me:
The new officers for 2020 are:

- CTS Section Chair – Larry Larson
- Vice Chair – Andrew Bluiett
- Treasurer – Bill Martino
- Secretary – Martha Dodge

In addition, I'd like to express thanks and gratitude for the service given by the previous officers, Standing Committee leaders, appointed coordinators and all the chapter & affinity groups chairs and their officers, both those finishing their terms and those newly elected.

In the meantime, enjoy and consider all the events listed in this newsletter. I wish you the most prosperous and enjoyable New Years for both you and Your Family!

Incoming Chairman, IEEE Central Texas Section
Larry Larson
Larry.Larson@IEEE.org
Message from CTS Chairman

A3. Message from the newly formed Lone Star Section (LSS)

As many of you may know, during the fall of 2019 a new IEEE Section was formed, the Lone Star Section. The new Lone Star Section (LSS) is made up of 24 counties that were in the southern area of the Central Texas Section covered. Check out the Lone Star website for details. https://r5.ieee.org/lonestar/

As San Antonio and Austin have both grown we wanted to be able to better focus on the local technical communities. Both the Central Texas Section (CTS) and Lone Star Section are committed to working together so that this growth results in a positive impact for both sections. Multiple joint opportunities are already under discussion as well as local activities for each section.

While we are addressing the many things vital to stand up a new section and continue supporting our members, we also want to provide more opportunities for leadership development, especially with students, women, and young professional groups. We see the potential for the new section to be a spring board for more activities in the chapters as well.

To communicate with our members and to the broader LSS technical community, the Lone Star Section will have its own Listserv. Watch for details on how to join. For a period of time, we will be including activities in both sections in our respective Listserv communications.

It's going to be a great and busy 2020 for both sections. Look for more announcements of CTS and LSS activities and please consider volunteering whether that's providing technical or

professional presentations, supporting section activities, starting new chapters, or other areas of interest to you.

Nils Smith
Chair, Lone Star Section
nils.smith@ieee.org

B. Volunteering, Ideas and Suggestions

The IEEE Central Texas Section offers great opportunities to participate in the growth of the section and its Chapters. Opportunity to

- Join and grow chapters/Affinity group
- Speak on a subject you are passionate about
- Lead an activity that impact the community
- Help out
- Volunteer for an event
- Start a discussion group
- Invite others to be on the CTS Newsletter mailing list

Questions? Please send an email to Larry Larson, Chair at larry.larson@ieee.org Thank you for being part of the CTS mission to bring relevant topics, to be part of the dialog, discussion and networking events, and to serve our members and communities. Please consult later in the newsletter with locations of meetings and events for the month of January.

C. Radio Wireless Week (RWW)

January 26-29
Grand Hyatt San Antonio
600 East Market Street, San Antonio, Texas 78133
https://radiowirelessweek.org/

RWW consists of five related conferences that focus on the intersection between wireless communication theory, systems, circuits, and device technologies. This creates a unique forum for engineers to discuss various technologies for state-of-art wireless systems and their end-use applications.

2020 Radio & Wireless Week Sponsors:

IEEE Microwave Theory and Techniques Society (MTT-S)
IEEE Aerospace and Electronic Systems Society (AESS)
IEEE Antennas and Propagation Society (APS)

Final Program can be obtained from
https://radiowirelessweek.org/sites/rww/files/user_uploads/RWW-pdf/RWW2020_Final_Program.pdf

D. The Internet of Things (IoT) and the mmWave Frontier

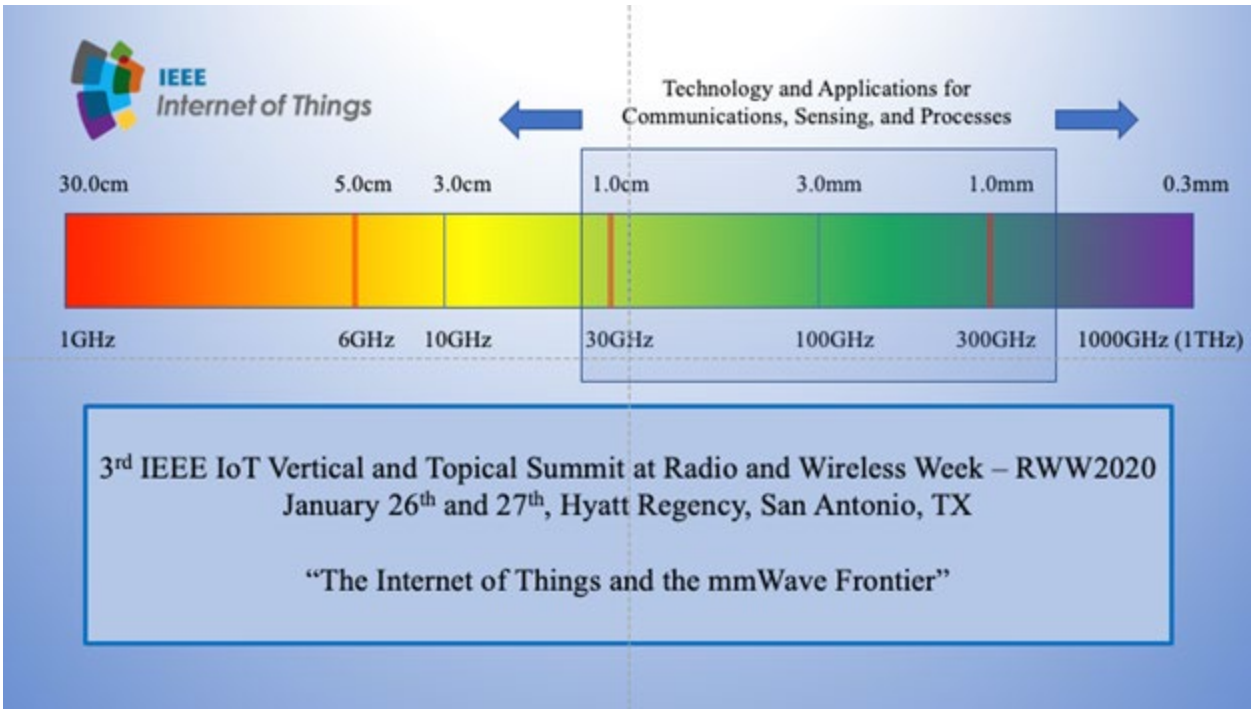
January 26-27
Grand Hyatt San Antonio
600 East Market Street, San Antonio, Texas 78133
https://rww2020.iot.ieee.org/

The 3rd IoT Vertical and Topical Summit will be held January 26 -27, 2020 as part of RWW2020 in San Antonio, Texas. The one and a half day Summit will address the important role that mmWaves play in the IoT ecosystem. The choice of the theme, "IoT and the mmWave Frontier", is motivated by increases in deployment and the regulatory attention paid to new allocations of licensed and unlicensed mmWave spectrum.

Please join us for a day and a half, January 26th and 27th 2020, devoted to exploring how mmWave and Terahertz Technologies fit into the world of "The Internet of Things (IoT)". The upcoming deadline for bookings at the Grand Hyatt San Antonio at the conference rate are January 1st,2020 [https://rww2020.iot.ieee.org/hotel-and-travel/] and early bird registration is January 4th,2020 [https://rww2020.iot.ieee.org/registration/].

The Summit is part of Radio and Wireless Week – RWW2020. Join the experts, practitioners, and end-users as they discuss the Technology, Applications, and Policies for exploiting the unique properties of mmWave and Terahertz devices for IoT, including Communications, Sensing, and Industrial and Commercial Processes. The over fifteen presenters at the Summit include specialists from Industry, the Public Sector, and the Research Community. They will be sharing their insights and experience and engaging directly with the audience through moderated panel discussions.

The Summit is brought to you by the Multi-Society IEEE Internet of Things Initiative and the IEEE Microwave Theory and Techniques Society.



Membership Development

Have you renewed your IEEE membership for 2020?

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 your IEEE account NOW. Go to www.ieee.org, sign in, select My Account, and then select Membership and Subscription Information OR call 800 678-4333.

OR just renew now to avoid loss of any of your IEEE benefits at www.ieee.org/renew .

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. We have a lot planned for you in the CTS for 2020.

IEEE Member Benefits

Have you looked at all the benefits you receive as an IEEE member?
Are you taking advantage of all that IEEE has to offer? If you're like me, you probably know of a few benefits and are taking advantage of but are missing out on many.

The latest IEEE member Benefits Bulletin is available. Go to:
IEEE Member Benefits for the latest on

- authoring through IEEE Collabratech,
- member discounts on insurance, UPS shipping, computer purchases, and Wiley-IEEE Press,

- Continuing educational opportunities through online learning and eBbooks. IEEE members have access to over 350 eBooks at no charge. See the current offering at https://www.ieee.org/publications/books/ebookclassics.html

Did you know about IEEE – IEEE Collabratec

IEEE has created an online tool to assist IEEE Members AND non-members in career development.

The IEEE Collabratec™ online community offers a suite of productivity tools and is available to technology professionals around the world with exclusive features for IEEE members. Plus sign up is free to everyone.
IEEE Collabratec™ can help you:

- Connect with global technology professionals by location and
- Access robust networking, collaboration, and authoring tools dedicated to technology professionals
- Establish a professional identity to showcase key accomplishments

Go to Collabratec NOW

You do NOT have to be an IEEE member to join IEEE Collabratech.

Upgrade to Senior Member

Senior Membership: Are you interested in upgrading your IEEE membership to Senior Member, but haven't started because of the potentially daunting application process?
If so, please contact James Mercier at jmercier@ieee.org for direction and support. Yes, you *can* apply by yourself, but the process is much quicker with an explanation of the process and nomination by the Section. We seriously recommend allowing James to explain the intent of the application questions and coach you on the detail and clarity required to make sure it passes. In addition, you won't have to worry about references because James will upload your application **and** assign reference writers to review your application and write a reference! Trust us, this is a great deal and has been working well as we've developed it over the past few years.

So, if you think you might qualify (James will let you know for sure) start by sending him your resume and he'll direct you from there. The next A&A Upgrade Panel for Senior Membership meeting is Feb. 15, so the cut off for application is Feb 1. The following A&A Upgrade panel meeting is April 4th.

Joe Redfield
CTS Membership Development Chair
J.Redfield@ieee.org
210-744-2968

IEEE CTS/LSS JANUARY 2020 EVENTS

Listed below are the IEEE Central Texas and Lone Star Sections/Chapter events/activities/meetings scheduled for November. For detailed information on the Central Texas and Lone Star Sections, please visit website at:
https://r5.ieee.org/ctx/
https://r5.ieee.org/lonestar/

*** Upcoming Local IEEE Sponsored/Supported Events ***

January 9, 2020
IEEE PI^2 AUSTIN, JANUARY 2020, CHAPCOMM, OFFICERS MEETING

Time: 11.59 am - 1:18 pm -- MORE INFO AND REGISTRATION: https://events.vtools.ieee.org/m/214884

IEEE PI2 Austin, January 2020, ChapComm, Officers Meeting

Location:
1101 South Mopac Expressway
IHOP Restaurant
Austin, Texas
United States 78746
Room Number: Private Dining Room

January 15, 2020
WORKSHOP ON ELECTRONIC WARFARE (2-DAY EVENT)

Time: 8:00 am - 5:00 pm -- MORE INFO AND REGISTRATION:https://events.vtools.ieee.org/m/213834
The IEEE Lone Star Section Joint Chapter of AES and SMC invites you to attend two one-day tutorials on electronic warfare by IEEE Distinguished Lecturer Dr. Lorenzo Lo Monte – Telephonics Corporation.

Topic:
Tutorial 1: Introduction to Electronic Warfare
Learn the technologies and algorithms behind the electronic warfare systems protecting assets, territories, and human lives. Electronic Warfare (EW) can be essentially divided in three categories: Electronic Attack (EA), Electronic Support (ES), and Electronic Protection (EP). EW is a large field spanning different domains, such as radar, communications, EO/IR, and cyber. This tutorial will focus on EA and EP techniques applicable to radar systems, with a quick overview of IADS, surface-to-air missiles, and fire control systems. Topics in EA include jamming techniques, jamming equations, anti-radiation missiles, DRFM, and SAR/ISAR jamming. Topics in EP are divided according to the radar subsystem engaged in the protection, such as transmitter, antennas, receiver, and signal processing, including techniques countering pull-offs and deceptions. This tutorial will be conducted at an unclassified level.
Tutorial 2: Electronic Support, ELINT and Radar Reverse Engineering
This tutorial continues the EW discussion by exploring its intelligence aspect, with a focus on radar systems. The tutorial begins with the CONOPS, theories and techniques used in electronic support missions, with an emphasis on radar warning

receivers. This includes an overview of signal detection and estimation, signal identification, and direction finding. Next, the course explores concepts and techniques used in electronic intelligence, in particular signal processing and the time/frequency analysis. The final part of the tutorial will focus on determining RF/hardware properties using remotely collected data, such as signals and images. Using both signal and hardware clues, the intelligence analyst will be able to identify the capabilities and performance of a radar. This tutorial will be conducted at an unclassified level.

Speaker : Lorenzo Lo Monte of Telephonics Corporation
Bio: Dr. Lo Monte has wide-ranging experience in applied Radar, RF, DSP, EW system design and prototyping, from small companies, consulting, academia, research institutions, to large defense contractors and government agencies worldwide. He serves as Chief Scientist at Telephonics, a top-100 defense corporation specializing in ISR, with the role of translating research innovations into commercial products. Prior to that, he was a Professor at the University of Dayton, and the Executive Director of the Mumma Radar Laboratory. Dr. Lo Monte has published over 70 peer-reviewed journal papers, conference proceedings, book chapters, and patents.

Location:
6220 Culebra Rd
San Antonio, Texas
United States 78238
Building: Library (Building 84)
Room Number: Fourth Floor Conference Room

January 16, 2020
IEEE AUSTIN COMSOC & SIGNAL & COMPUTER/EMBS PROCESSING SPECIAL SESSION ON "DEEP LEARNING IN COMPUTER VISION"

Time: 6:00 pm - 8:00 pm MORE INFO AND REGISTRATION:https://meetings.vtools.ieee.org/m/216974
MORE INFO AND REGISTRATION:https://meetings.vtools.ieee.org/m/216975

Topic: "Deep Learning in Computer Vision"

Abstract:

Computer Vision has evolved into an interdisciplinary field of science that beams to perform computers process, analyze images and videos to extract information similar to that of human beings.

In recent years, there has been serious interest in the demand for deep learning techniques to the computer vision tasks, particularly in the context of search and social media businesses such as Facebook, Google, and others. These methodologies designed to automatically derive valuable information from images and videos that have been uploaded to the web by users.

Deep Neural Network (DNN) in computer vision has propelled this technology to a different level and made complicated tasks like self-driven cars to the analysis of three-dimensional images from CT scans a possibility. DNN outperforms traditional methods and delivers superior results both in inference accuracy and with reduced latency. Computer Vision, along with DNN, has now reached the stars.

Speakers: Semih Aslan & Vittal Siddaiah

Bios: Dr. Semih Aslan is an Associate Professor of Electrical Engineering at Texas State University, where he joined in 2011. He previously worked as a Senior FPGA Design Engineer with Motorola and full-time instructor at various universities. Dr. Aslan is the founding director of the System Modeling and Green Technology (SMART) Lab in the Ingram School of Engineering at Texas State. He currently advises graduate and undergraduate senior students on green energy, multi-processor system design and data analysis projects and has numerous publications.

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 is a Senior IEEE member.

Vittal Siddaiah is system engineer at Intel with 15 years of experience in silicon validation. He led the design of machine learning strategies based Regression Tool Suite for emulation and post-silicon validation, enhancing performance, and reducing the time to triage. He is distinguished for his contributions to the high-performance design of tools in the field of data-analytics and measurements. He has earned several recognitions and awards, including "One Generation Ahead Award" and "Waste Elimination Award."

Vittal is passionate about mentoring engineers and students. He has won the "Best Trainer Award" at Intel. Some of the domains include Hardware-software co-design, Operations Research, Image Processing, Operating System, Python, and C++. Vittal has Bachelors in Electronics Engineering, and Masters in Management, M Phil in Management, Masters in Mathematics.

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

January 16, 2020
INSIDE APOLLO: HEROES, RULES AND LESSONS LEARNED IN THE GUIDANCE, NAVIGATION, AND CONTROL (GNC) SYSTEM DEVELOPMENT

Time: 12:00 pm - 1:00 pm -- MORE INFO AND REGISTRATION:https://meetings.vtools.ieee.org/m/213819

(If you are not able to attend the lunchtime session, this will be offered again at 7 PM at St. Mary's University. Please register at https://meetings.vtools.ieee.org/m/209418)

Apollo 8 (Dec 1968) and Apollo 11 (July 1969) were among the greatest explorations of mankind. In Apollo 8, astronauts deliberately put themselves in orbit around the moon expecting the rocket engine to later fire and bring them home to Earth. In Apollo 11, it was mankind's first visit to the moon and Tranquility Base. Movies, books, articles, and documentaries have covered the space race. The author will give his thoughts based on 10 years inside the GNC program design, many hours in the Spacecraft Control room at Cape Kennedy monitoring GNC performance through liftoff, and then providing real-time mission support to NASA from MIT in Cambridge, MA.

Speaker: George Schmidt

Bio : IEEE Distinguished Lecturer. Many, many awards and honors. During his 46 years at MIT and Draper Laboratory, he held positions that included Leader of the Guidance and Navigation Division, Director of the Draper Guidance Technology Center, Education Director, and Lecturer in Aeronautics and Astronautics. He is an AIAA Fellow and an IEEE Life Fellow. He is the author of more than 100 technical publications. He received his SB, SM and ScD degrees from MIT.

Note: The presentation will be webcast and recorded. Contact the meeting organizer for instructions to view the live webcast.

Location:
6220 Culebra Rd
San Antonio, Texas
United States 78238
Building: Administration Building (160)
Room Number: Auditorium

January 20, 2020
IEEE/AESS GYRO AND ACCELEROMETER PANEL (GAP) MEETING (2-DAY)

Time: 8:30 am - 5:00 pm -- MORE INFO AND REGISTRATION:https://meetings.vtools.ieee.org/m/213817

This is a working meeting for standards development, but they are open to the public like any IEEE meeting. Only members that have participated in a number of meetings will be allowed to vote.

Location:
6220 Culebra Rd
San Antonio, Texas
United States 78238
Building: Thomas Baker Slick Memorial Library
Room Number: 4th Floor Conference Room

January 22, 2020
IEEE LIFE MEMBER AUSTIN AND CONSULTANTS NETWORK - 22 JAN 2020 MEETING- 5G INTERNET

Time: 6.00 pm - 8:00 pm -- MORE INFO AND REGISTRATION:https://meetings.vtools.ieee.org/m/214435

The Austin Life Members' Group promotes the development of members through professional and social networking,addressing topics of interest to Life Members, including volunteer activities, and supports the IEEE Central Texas Section. Website: http://webinabox.vtools.ieee.org/wibp_home/index/LM500051/

Topic: "The 5G Internet: Advanced Architectures and High Performance Communication Services "

Gartner and Cisco predict 500 billion internet-connected devices by 2030. Worldwide, densely connected 5G networks are expected to serve as the foundation of the future wave of Internet of Things (IoT) connected devices for smart city services and future high technology battlefields. 5G applications involve dynamic network configurations, support for the tactile internet, and machine learning. In this presentation, we review the frameworks underlying state-of-the-art 5G system infrastructure and wireless access technology. The talk describes the subsystems that make 5G ideal in support of wireless internet applications, future autonomous vehicle network applications requiring ultra-low delay, and smart-city IoT.

Speaker: Dr. Brian Kelly of University of Texas at San Antonio

Bio : Dr. Kelley spent 10+ years in industry with both Motorola and spinoff, Freescale. He rose to Distinguished Member of the Technical Staff, developing Wi-Fi, HSPA, LTE communication radio simulators, and served as a representative to the 3GPP RAN4 (4G-LTE) standards body.

Since 2007, Dr. Kelley has been an Associate Professor of Electrical and Computer Engineering at the University of Texas at San Antonio (UTSA). Dr. Kelley is Director of the Wireless Information and Next Generation Systems Laboratory (WINGS) with an emphasis on 5G Communications, Software Defined Radio (SDR), Cloud Radio Access Network (CRAN), IoT, Physical Layer Security, and Quantum Information Systems. Dr. Kelley has received over $2.6M in research funding from ONR, AFRL TECHLAV, DoE and consults extensively with cellular communications companies. He has numerous IEEE publications and holds 11 US patents.

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

January 23, 2020
ASSET MANAGEMENT FOR UTILITY EQUIPMENT - PES SA

Time: 6:00 pm - 8:00 pm -- MORE INFO AND REGISTRATION:https://meetings.vtools.ieee.org/m/215138

Utilities are asset intensive industries with vast amounts of equipment in need of maintenance and replacement. The discussion will be one utilities method of management.

Topic: "Asset Management for Utility Equipment"

Speaker: Jose Jarque of CPS Energy

Location:
4109 Fredericksburg Rd
San Antonio, Texas
United States
Building: Grady's
Room Number: meeting room

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IEEE Conference Search can be found at
http://www.ieee.org/web/conferences/search/index.html

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http://www.ieee.org/myieee

* Renew your IEEE membership
http://www.ieee.org/renewal

* Research with ease with the IEEE Member Digital Library
http://www.ieee.org/ieeemdl

* Access IEEE Xplore, the online delivery system
http://www.ieee.org/ieeexplore

* Explore technology at IEEE Spectrum Online
http://www.spectrum.ieee.org/

* Establish a FREE @ieee.org e-mail alias
http://www.ieee.org/alias