

02 EDITORIAL Corner



IEEE CTS Chairman

Fawzi Behmann
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Happy 4th of July !

A half-year has passed by, and the Central Texas Section has already made significant contributions to the members and community at large. We are looking ahead for more engagement with the community as we look for several potential initiatives: the Texas Technical tour, STEM Program, Student Conference, Smart City Summit, and a potential career fair.

In this issue, we introduce a new volunteer in the Central Texas Section vice chair position serving Austin and surrounding areas and provide a quick overview of one the chapter/affinity groups.

06 IEEE Member Development

HALF PRICE IEEE MEMBERSHIP

That's right half price IEEE membership. Join IEEE for the first time and pay only ½ annual dues. If you have been looking to join, but waiting for a good excuse, now is it. Go to www.ieee.org/join for details.

If you are currently unemployed or retired and have not renewed your membership for 2018, you can also renew your IEEE membership at ½ price. Simply go to: www.ieee.org/renew.

07 IEEE Texas Technical Tour

The IEEE Texas Technical Tour will begin on October 9th, 2019 starting in San Antonio (for a bus ride to Houston) or at the Hilton Plaza Medical Center in Houston.

08 IEEE CTS EVENTS

Come and see our section events.



EDITORIAL Corner

Chairman, IEEE Central Texas Section

Fawzi Behmann

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A. Highlights:

A.1 Welcome new CTS Autin Vice-Chair

We are concluding the first half of the year by introducing Dr. Heena Rathole as the new vice chair for Central Texas Austin. She has been a member of IEEE for several years, and recently she became a senior member. She received her bachelor degree in Computer Science Engineering from College of Technology and Engineering, Bhubaneswar, India in 2010, with Honors. She received her Ph.D. (with distinction) in the Computer Science and Engineering Department while she was a Tata Consultancy Services Research Scholar at the Indian Institute of Technology, India. She was a post-doctorate researcher for US-Qatar Joint Collaborative Project between Temple University, USA, University of Idaho, USA, and Qatar University. Heena Rathore is currently a Data Scientist and Program Manager at Hiller Measurements.



Her responsibilities supporting the leadership team in Austin and the surrounding area include providing support to chapters/affinity groups, establishing training programs, supporting some IEEE initiatives, and CTS outreach programs. Welcome, Heena, to this volunteer position with Central Texas Section.

A.2 Greater services from our Chapters and Affinity Groups

We are pleased to report that with the support from the chapters and affinity groups, we have conducted 123 meetings since the beginning of the year across Austin and San Antonio. The chapters and affinity groups that have been very active include: Power and Engineering (PE31), Communications & Signal Processing Com19/SP01), Computer and Embedded Systems, C16/EMBS18), Circuits & Systems (CAS/SSC), Consulting Networks (CN), Life Members (LF), Women in Engineering (WIE) and others. Chapters continue to provide intriguing topics such as Quantum computing, 5G, AI, Cyber-physical security, smart cities, deep learning, deep space communications, handling changes during careers, Hi-Speed CMOS, Blockchain and many others.

- During the first six months, the Central Texas Section (CTS) received regional outstanding large section award recognizing outstanding services carried by the section.
- IEEE CTS has been visible in IEEE special and prestigious events such as VIC – Vision, Innovation and Challenges Summit and Honors Ceremony, hosting 15 countries and more than 300 participants. The IEEE awards recognize exceptional contributions to all IEEE fields of interest (technical and nontechnical) made by organizations. CTS was represented and participated in panel sessions.
- IEEE CTS has generated high awareness and visibility in Austin at Austin Summit -speaking on 5G along with AT&T & ATC and exhibiting projects done by senior students on smart cities outreach projects. The student's work, sponsored by IEEE CTS, was on display at Texas Smart Cities Summit.
- CTS participated at several events domestically and internationally such as the Distinguished Lecturer Program.
- The new and improved image of the newsletter brings colorful and solid content to the readers.

We wish to thank you for your support, feedback to help us improve and offer better services and quality content.

B. June Feature and Planning Ahead:

B.1 June Feature:

--- *Visit to Spain*

Dr. Heena Rathore was recently invited to chair a session on Security and Usability and present her recent research work at the 10th IFIP International Conference on New Technologies, Mobility & Security, 24-26 June, Canary Islands, Spain. The conference aims at fostering advances in the areas of New Technologies, Wireless Networks, Mobile Computing, Ad hoc, and Ambient Networks, QoS, Network Security, and E-commerce. The title of her presentation was "A bio-inspired framework to mitigate DoS attacks in software-defined networking." Denial of service (DoS) attacks pose a significant threat to Software Defined Networks, as it can disable the genuine hosts and routers by exhausting their resources. It is thus vital to provide efficient traffic management, both at the data layer and the control layer, thereby becoming more responsive to dynamic network threats such as DoS. Existing DoS prevention and mitigation models for SDN are computationally expensive and are slow to react. This work introduces a novel biologically inspired architecture for SDN to detect DoS flooding attacks. The proposed biologically inspired architecture utilizes the concepts of the human immune system to provide a robust solution against DoS attacks in SDNs. The two-layer immune inspired framework, viz innate layer and the adaptive layer is initiated at the data layer and the control layer of SDN, respectively. The proposed model is reactive and lightweight for DoS mitigation in SDNs.



Dr. Rathore chaired the session of "Security and Usability" where papers on cybersecurity were presented. These papers are from researchers and scientists spread across France, Netherlands, and the Czech Republic on the topics of mobile authentication, subdomain attacks, and secure software development.



B.2 Planning Ahead:

We continue to look ahead and plan for more compelling content for our members being part of different IEEE societies, initiatives, and affinity groups.

We are planning more engagement with the community as we look for several initiatives:

- Texas Technical tour,
- STEM Program,
- Student Conference,
- Smart city summit and
- Potential career fair.

More information is unveiled in this and future issues. Let us know if you wish to volunteer.

C. 2019 July Special Events:

In July, CTS continues to be active in the community and in outreach activities:

- **IEEE ComSoc Summer School, Austin, July 16-19, 2019**

IEEE Communications Society (ComSoc) has launched a Summer School 2019. The IEEE ComSoc Summer School is designed to help kick-start the careers of new professionals, Ph.D. candidates, and researchers in wireless communications. The 5th Edition will be held on 16th-19th July 2019 at National Instruments Corporation, Austin, Texas. It consists of lectures by world-leading professors, industry leaders, and executives. The event features a highly interactive classroom environment with an intense focus on learning the cutting-edge trends in communications technology, as well as laboratory tours, demonstrations, hands-on workshops, poster presentations, and networking activities.

CTS has been a great supporter of the event, and several members of CTS are actively engaged.

Keynote Speakers:

Other distinguished speakers

Tuesday, July 16	IEEE ComSoc Research
Wednesday, July 17	Evolving 5G and the Challenges Ahead - 5G 2.0 James Kimery - National Instruments
Thursday, July 18	Unlocking efficiencies in supply chain & distribution using Industrial IoT N.R. Vijay - Prolifics
Friday, July 19	Collaborative IoT, 5G and AI empower building smart solutions towards Smart Cities Fawzi Behmann – TelNet Management Consulting Inc. IEEE Central Texas Section

CTS Speakers:

Wednesday July 17	Universal Software Defined Radio Open Platform: 5G, 4G, WiFi, and Advanced Research Brian Kelley - UTSA
	Deep Learning Based Security Solutions for the Internet of Medical Things Dr. Heena Rathore - Hiller Measurements

For details and registration, please check this link:

<https://events.ni.com/profile/form/index.cfm?PKformID=0x3853219e01&&varPage=register>

- **IEEE Convene, July 31 - August 2, 2019**

IEEE Convene is an annual event for leading conference organizers around the world from more than 31 countries to discover, discuss, and design new innovations for IEEE conferences. The theme this year is enhancing the attendee experience. Among the topical areas: Successful conferences today, Engaging Local Community, Interactive Breakout sessions, Industry engagement, Importance of a Diverse Community, and Top legal issues & Media requests.

As the conference committee chair for R5 and Central Texas chair, Fawzi Behmann will attend the conference and share information after the conference.

Please consult this issue of the newsletter for other meetings, and events planned by various society chapters and affinity groups in Central Texas section.

D. Volunteering, Ideas, and Suggestions:

Central Texas Section offers excellent opportunities to participate in IEEE activities and outreach:

Opportunity to

- Join and grow chapters/Affinity groups
- Speak on subjects for which you have passion
- Lead activities that impact the community
- Volunteer for an event
- Start a discussion group
- Invite others to be on the CTS Newsletter mailing list
- Send questions of interest and help on IEEE events

Please send an email to Fawzi Behmann, Chair at f.behmann@ieee.org.

Thank you for being part of the CTS mission, in bringing relevant topics, being part of the dialog and discussion and networking events, and in serving our members and communities.

Thank You,

Chairman, IEEE Central Texas Section
Fawzi Behmann
f.behmann@ieee.org
Message from CTS Chairman



Member Development

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Did you know about IEEE – Collabratec?

Did You Know –

IEEE Collabratec™ is an integrated online community where technology professionals can network, collaborate, and create - all in one central hub. IEEE Collabratec™ offers a suite of productivity tools and is available to technology professionals around the world with exclusive features for IEEE members. Sign up is free to everyone. You don't have to be an IEEE member to join!

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IEEE Texas Technical Tour - 2019

IEEE Technical Tour will begin on October 9th ...

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

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

Questions: s.atkinson@ieee.org

The IEEE Texas Technical Tour will begin on October 9th, starting in San Antonio (for a bus ride to Houston) or at the Hilton Plaza Medical Center in Houston. After visiting NASA, the University of Houston (IEEE Milestone Plaque on Superconductivity), Rice University and other cultural and Historical Sites, the bus will arrive in San Antonio for 2 1/2 days of site visits. They include the San Antonio Missions, the River Walk, Southwest Research Institute, the under City Tunnel, the Alamo and the Toyoto plant with dinner on the River and at Papadeauxs. From there the bus will proceed to Austin for visits to the University of Texas Micro Grid and the Texas Computing Center before enjoying some famous BBQ. Upon leaving Austin, the next stop will be the Texas Ranger Museum (and maybe a custom transformer manufacturing facility before ending up in Dallas. In Dallas we will visit Texas Instruments. That will complete the 10 day bus Tour.

For information, contact
Scott Atkinson, s.atkinson@ieee.org,
Tel : 210-410-0382.



Scott Atkinson has been selected to Chair the IEEE Life Member Committee beginning in 2020. As such he will lead the effort to plan for activities in all 10 IEEE Regions Life Member Affinity Groups.

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.

IEEE CTS JULY 2019 EVENTS

11 IEEE PI² AUSTIN, JULY 2019, CHAPCOMM, OFFICERS MEETING

Time: 11:59 am - 1:30 pm -- **MORE INFO AND REGISTRATION:** <https://events.vtools.ieee.org/m/200761>

IEEE PI² Austin, July 2019, ChapComm, Officers Meeting

Location:

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

18 IEEE CTS JOINT APP/MTT, IM, COMSOC/SP, COMPUTER/EMBS - SPECIAL PRESENTATION ON "DESIGN FAST WITH MODULAR BLOCKS: THE FUTURE OF RF & MICROWAVE SYSTEMS"

Time: 6:00 pm - 8:00 pm -- **MORE INFO AND REGISTRATION:** <https://events.vtools.ieee.org/m/200905>

IEEE CTS Joint APP/MTT, IM, ComSoc/SP, Computer/EMBS - Special Presentation on "Design Fast with Modular Blocks: The Future of RF & Microwave Systems"

Topic: "DESIGN FAST WITH MODULAR BLOCKS: THE FUTURE OF RF & MICROWAVE SYSTEMS"

Abstract: Commercial and government investments in 5G, satcom, and defense electronics are driving unprecedented growth commercially available MMICs. These investments increase the pressure to design new systems faster, more efficiently, with improved chances of first pass design success. While simulation has transformed the early stages of the design process, little has changed over the last 6 decades in the physical process of characterizing components, prototyping systems, and integrating designs for production.

Improving design reuse is an obvious way to achieve these objectives, yet it has never been implemented on a broad scale. In this talk we discuss the technical challenges, opportunity, and limitations of design reuse. We paint a vision for how many of these challenges might be overcome citing real-world examples and paint a vision for how design reuse, applied at scale, could transform the RF and Microwave industry.

Speaker: Erik Luther, X-Microwave

Erik Luther serves as a Vice President at X-Microwave working closely with RF and microwave engineers on all stages of design, prototyping, and production of RF and Microwave systems and is responsible for developing strategic partnerships with leading device manufacturers.

Over the last 18 years he has held technical and customer facing roles in application engineering, product development, marketing, and technical sales. Notable accomplishments include co-founding National Science and Technology Press in 2005 - successfully blending hands-on education and traditional textbooks for engineering education. In 2012, leading product marketing and Software Defined Radio product strategy. In 2015 he launched National Instruments' Massive MIMO testbed delivering record setting spectral efficiency and 2016 the mmWave prototyping system with one of the first over-the-air 5G waveform demonstrations. Luther graduated with a BSEE from the University of Missouri in 2003 and is a member of IEEE.

Location:

9505 Arboretum, Austin
Austin, Texas
United States
Room Number: #220

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IEEE PI² AUSTIN, JULY 2019, TECH MEETING “APPLICATION OF SYNCHROPHASOR TECHNOLOGY FOR GRID OPERATIONS

Time: 6:00 pm - 8:30 pm -- **MORE INFO AND REGISTRATION:** <https://events.vtools.ieee.org/m/200802>

IEEE PI2 Austin, July 2019, Tech Meeting

Topic: “Application of Synchrophasor Technology for Grid Operations”

Abstract: To realize the vision of the future smart electric grid, advanced technological solutions such as real-time measurements of synchrophasors need to be integrated into the existing power system operation and control practices. Phasor measurement units (PMUs) provide synchronized measurements at high rates for enhanced wide area situational awareness and decision support using new applications. There have been several large scale implementations of synchrophasor technology in managing the grid across the world. Efforts are in place to take this technology into control room operations and develop good operational procedures to better manage the grid with wide area visualization tools using PMU data. Dr. Sarma ‘NDR’ Nuthalapati, IEEE distinguished lecturer, Supervisor and EMS and Advanced Applications at LCRA, will present some basics of synchrophasors and discuss some use cases of synchrophasors in managing the grid.

Speaker: Sarma ‘NDR’ Nuthalapati of Lower Colorado River Authority (LCRA)

Dr. Sarma is currently the Supervisor for the EMS and Advanced Applications at LCRA Transmission Services Corporation in Austin. Prior to joining LCRA in Oct 2018, he was for about 8 years at ERCOT and for about 2 years at PEAK Reliability. He is very active in the IEEE Working Groups for State Estimation and Smart Distribution Systems. He is currently leading the IEEE Task Force on ‘Real-Time Contingency Analysis’. He is also active at the NASPI Working Group meetings and was given North American Synchrophasor Initiative (NASPI) Control Room Solutions Task Team (CRSTT) Most Valuable Player (MVP) Award, October 2015 and CRSTT Volunteer of the Year Award, April 2018, by Department of Energy. He has several publications in IEEE Transactions and Conferences. He is the editor for the Book on ‘Power System Grid Operation Using Synchrophasor Technology’ by Springer, July 2018. He is a senior member of IEEE and a member of IEEE Power and Energy Society (PES). He is also Distinguished Lecturer in IEEE PES Distinguished Lecturer Program (DLP). Dr. Sarma Nuthalapati obtained his Bachelors and Masters degrees from National Institute of Technology, Warangal, and his Ph.D. degree from IIT Delhi, India.

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