IEEE Central Texas Newsletter

02 EDITORIAL Corner

During the month of April, we are pleased to report that Central Texas Section (CTS) received several awards including "R5 OUTSTANDING LARGE SECTION AWARD", which was announced on April 6th during 2019 Region 5 Awards Banquet held in Lafayette, Louisiana. Winners of the student competitions were also announced at the banquet.

IEEE CTS Chairman

Fawzi Behmann

06 IEEE Member Development

NEW TO THE IEEE OR WANT TO FIND OUT MORE ABOUT THE BENEFITS OF YOUR IEEE MEMBERSHIP?

The IEEE has developed a website, www.ieee.org/start , specifically to support new IEEE members in navigating though the IEEE. Along with the information on the site, IEEE has created a new member orientation video for you to watch at your convenience. Additionally, at the same URL is a starting point for many of the IEEE membership benefits.
If you are a new member to IEEE OR just want to refresh yourself on the GREAT benefits the IEEE offers to its members, check out the site and the orientation

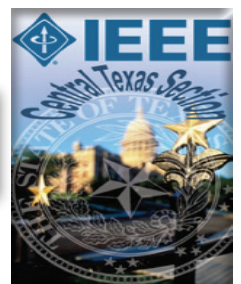**NOT AN IEEE MEMBER AND HAVE BEEN WAITING TO JOIN?**

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!

07 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.

08 IEEE CTS EVENTS

Come and see our section events.

EDITORIAL Corner

Chairman, IEEE Central Texas Section

Fawzi Behmann

f.behmann@ieee.org

THIS MONTH'S EVENTS

A. April Highlights:

During the month of April, we are pleased to report that Central Texas Section (CTS) received several awards including "R5 OUTSTANDING LARGE SECTION AWARD", which was announced on April 6th during 2019 Region 5 Awards Banquet held in Lafayette, Louisiana. Winners of the student competitions were also announced at the banquet.

On April 24, an IEEE special meeting for student project presentations was held in Austin to celebrate the completion of Texas State students' outreach projects that were sponsored by CTS. As a part of outreach program, the chair of CTS was invited to participate and delivered a keynote and talks at a conference at 3 universities in India and later participated and contributed at World Forum IoT at Limerick, Ireland.

More exciting activities are planned for May.

DETAILS:

- **Awards:** Last month, in the Editorial Corner, I highlighted the CTS contributions and achievements in 2018. I'm pleased to report that R5 Awards Evaluation committee recognized our contributions and achievements, and as a result, we received Region 5 Outstanding Large Section Award for 2018 for outstanding support to the members, region and IEEE. Fawzi Behmann, Chair of CTS received the award on behalf of the section. In addition, member achievement awards were received by CTS for Dr. Larry Larson, overall student coordinator, and Amritesh Rai for leading efforts for the Grad students TEMS program.

April 6, 2019, Lafayette, LA
IEEE Region 5 Awards Banquet

Bob Shapiro
R5 Director

Diane Collier
(Chair, R5 Awards) &
Fawzi Behmann
(Chair, CTS – Central Texas Section)

IEEE R5 Awards Banquet –
R5 Outstanding Large Section Award
"Central Texas Section"
April 6, 2019

| Larry Larson | Scott Atkinson | Kenny Rice | Bill Martino | Fawzi Behmann | James Mercier | Tom Grim |

Other members of CTS Executive Committee are shown in the photo.
R5 CTS Achievement reports will be available on the CTS website – Awards.

- **R5 Student Competition:** IEEE Region 5 supports programs for more than 3,600 IEEE Student Members at more than 90 university Student Branches associated with the 26 Local IEEE Sections in IEEE Region 5. Five Student branches participated from CTS for Paper Competition, Ethics Competition, Circuit Design, and Robotic Competition. The five student branches that participated are: St. Mary's University, Trinity University, Texas State, UTSA – San Antonio, and UT Austin.

- In August 2018, CTS has sponsored two Smart City IoT Outreach Projects at Texas State where 4 students were assigned for each project under an advisor. Two for-credit projects were identified:

  - Smart Cities Patient Fall Detection: The project will utilize a web-based application to manage a network of digital and analog devices, which will create a smart environment to increase patient safety. The system will monitor patients and display a video feed and data from pressure sensors to a monitor at the nurses' station.
  Team: Christopher Grassel, Marco Castro, Samuel Mckinney, Jack R Sargeant
  Faculty Advisor: Dr. Semih Aslan

  - Smart City Concept Garage System: A smart city concept garage system is a system installed in a standard garage that allows for multiple control options for the garage door, access to sensory data, web browsing monitoring access, and pipeline of data warehousing. The garage system will react to sensor readings that indicate danger, such as opening the garage door for ventilation if the carbon monoxide concentration is high. The system will be integrated with other systems that together make up a smart home.
  Team: Rhylie Hoyt, Case Winter, Muhammad Ahmed, Wesley Nicol
  Faculty Advisor: Dr. Damien Valles

The projects are now competed and presentations & demos were delivered at an IEEE Special meeting held April 24. A similar demo will be conducted on May 7 at Senior Design Day at Texas State – Ingram School of Engineering. Members and employers are welcome to attend - please register here:
https://www.engineering.txstate.edu/Senior-Design/Registration.html

Special thanks go to the advisors and the 8 students who worked hard on these projects.

- ***Outreach Support:*** As a p art of outreach program, the chair of CTS was invited to participate and delivered a keynote and talks in Bangalore and Vellore in India. At Bangalore talks and faculty discussions were held at 3 universities: India Institute of Science, AMRITA Vishwa Vidyapeetham, and PES University. At Vellore, a Keynote was delivered at ViteCon International Conference on Vision Towards Emerging Trends in Communications and Networking followed by further discussions with the faculty. At both Vellore and Bangalore there was an interest to establish a dialog program with Central Texas – student exchange programs.

- Mid April, Fawzi Behmann, CTS Chair, contributed at World Forum IoT in Limerick, Ireland. He co-chaired a track on green technologies, then spoke on technology for healthcare and at the end of the conference, he was part of a panel on Smart cities. IEEE 5th World Forum

B. May 2019 Special Events:

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:

- **Senior Design Day,**
  May 7, noon-5:00pm
  Texas State, Ingram School of Engineering
  https://www.engineering.txstate.edu/Senior-Design/Registration.html

- **5G: THE WIRELESS COMMUNICATIONS TECHNOLOGY THAT WILL TRANSFORM SOCIETY**
  May 14, 2019, @6:15pm
  Austin Forum,
  Austin Public Library, Downtown Branch, Texas
  https://www.austinforum.org/may2019.html
  Fawzi Behmann, CTS chair will be a speaker at the Forum.

- **IEEE San Antonio Joint Life/TEMS Meeting**
  May 16 @ 11:30 am - 1:30 pm
  The Texas Volkswagen Environmental Mitigation Program
  https://events.vtools.ieee.org/m/198432

- **IEEE Vision, Innovation Challenges Summit**
  May 17, 2019
  San Diego, CA
  https://ieee-vics.org/session/panel-iot-smart-networks-and-social-innovations/
  Fawzi Behmann, CTS chair will take part of a panel on Smart Networks and Social Innovation

- **NI Week**
  May 20-23, 2019
  Austin Convention Center, Texas
  Event webpage please click here.
  Registration

  Exhibits and IEEE CTS Booth at NI Week
  • Monday, May 20, 5:30–7:00 p.m. Welcome Reception
  • Tuesday, May 21, 9:30 a.m.–7:00 p.m. 25th Anniversary Celebration: 5:00–7:00 p.m.
  • Wednesday, May 22, 9:30 a.m.–2:00 p.m.

- **IEEE Life Member**
  21 MAY 2019 @ 6:00 pm - 9:00 pm
  Austin
  Speaker: Mike McShane
  Big Bend National Park
  http://sites.ieee.org/ctx/event/ieee-life-member-austin-21-may-2019-meeting-big-bend-national-park/

- **Texas Smart Cities Summit**
  May 21, 2019
  Austin Public Library, Downtown Branch, Texas
  8:30am - 5:00 pm Presentations & Forum
  5:00 pm – 7:00 pm Networking & Expo
  https://www.eventbrite.com/e/texas-smart-cities-summit-tickets-57113611349

- **IEEE CTCN**
  May 22, 2019 @ 6:00 pm - 8:00 pm
  "A Retrospective", Dr. Marcel J. E. Golay
  http://sites.ieee.org/ctx/event/ieee-ctcn-dr-marcel-j-e-golay-a-retrospective/

- **IEEE COMPUTER & EMBS and ComSoc & Signal Processing – Austin**
  May 23, 2019 @ 6:00 pm - 8:00 pm
  "Cyber-Physical System Challenges to the Trustworthiness of Systems"
  Prof. Al Mok, UT Austin, Professor, Quincy Lee Centennial Professorship In Computer Sciences
  https://meetings.vtools.ieee.org//m/198494

- **2019 IEEE Women in Engineering International Leadership Conference (WIE)**
  May 23-24, 2019
  JW Marriott, Austin, Texas
  http://ieee-wie-ilc.org/agenda/
  http://ieee-wie-ilc.org/registration/

  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.

C. Other Meetings and Events:

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

D. Volunteering, Ideas and Suggestions

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.

Thank You,

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

Member Development

IEEE Participation in National Instruments NIWEEK 2019

The IEEE Central Texas Section will be participating in this year's NIWeek as exhibitors May 21st through the 23rd. We will be promoting the value of being an IEEE member both nationally and local to the Central Texas Section.

If you're at NI Week, be sure and stop by the IEEE booth, say hello and help talk to other NIWeek attendees about what it is to be an IEEE member! As a note, you can get an Expo only badge for free. It will get you into the exhibits as well as the morning keynotes and exhibit parties Monday and Tuesday nights.

The IEEE Central Texas Section is looking for volunteers to assist in manning the booth. Come meet other local IEEEers, network, and have some fun. Send your interest to Joe Redfield @ j.redfield@ieee.org and I'll respond with details.

Not an IEEE member and have been waiting to join?

Join now with ½ year dues! Join IEEE and receive 9 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

Did you know about IEEE ?

IEEE Young Professionals - IEEE Young Professionals is the group of IEEE members and volunteers who have graduated from their first professional degree within the past 15 years. It is an international community, whose members are interested in elevating their professional image, expanding their global network, connecting with peers locally and giving back to their community. Since it encompasses all members from recent university graduates to experienced professionals and entrepreneurs, the group is highly diverse in what it has to offer. To join the IEEE Young Professionals community, you need to be an IEEE member.

Find out more about IEEE Young Professional activities and how you can become a part of the dynamic group. See
yp.ieee.org

Joe Redfield
CTS Membership Development Chair
J.Redfield@ieee.org
210-522-3729

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.

Registration: http://sites.ieee.org/ieee-tx-technical-tour/
vTools: https://events.vtools.ieee.org/m/178799
Questions: 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.

IEEE CTS MAY 2019 EVENTS

9-10 IEEE PI2 AUSTIN, MAY 2019, CHAPCOMM, OFFICERS MEETING

Start: May 9 @ 11.59 AM -- MORE INFO AND REGISTRATION: https://events.vtools.ieee.org/m/198096
End: May 10 @ 1.30 PM

IEEE PI2 Austin, May 2019, ChapComm, Officers Meeting

Per agenda that will be distributed to officers prior to meeting.

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

16 SAN ANTONIO JOINT LIFE/TEMS MEETING: THE TEXAS VOLKSWAGEN ENVIRONMENTAL MITIGATION PROGRAM

Time: 11.30 am - 1:30 pm -- MORE INFO AND REGISTRATION: https://events.vtools.ieee.org/m/198432

Topic: The Texas Volkswagen Environmental Mitigation Program

Abstract: The Volkswagen (VW) and its related entities settled with the US EPA and the State of CA in litigation over the alleged use of emission defeat devices in approximately 590,000 light-duty 2.0-liter and 3.0-liter diesel vehicles in the US and CA. Based on the number of affected vehicles in Texas (TX), a minimum of $209 million dollars will be made available for TX projects that reduce nitrogen oxides (NOX) in the environment.
The San Antonio area is slated to receive approx. $63 million of these TX funds. The Texas Commission of Environmental Quality (TCEQ) will administer these funds. This talk will provide a short overview of the TCEQ program and review the exciting opportunities emerging in accelerating medium and heavy duty vehicle electrification in our area.

Speaker:
Joe Redfield of IEEE

Bio: With over 30 years of experience in research and development, Joe Redfield specializes in energy systems engineering and has extensive design and project management experience in the development and application of advanced technologies for vehicle propulsion systems. He provides strategic as well as technical innovation and leadership in a variety of programs related to vehicle-to-grid and advanced plugin electric vehicle charge control, as well as other alternative energies.

Prior to starting Redfield Consulting Services, he worked at Southwest Research Institute (SwRI) where he managed and provided engineering leadership to project teams involved in the development of electric, hybrid, plug-in hybrid drive trains, and advanced vehicular energy storage systems.
He has been a member of IEEE for 30+ years and is currently the IEEE Region 5 and Central Texas Section Membership Development Chair. He has served in various officer positions in the CTS including Chairman.
Joe Redfield PE, Owner Redfield Consulting Services.

Location:
8633 Crownhill blvd
San Antonio, Texas
United States 78209
Building: La Fonda
Room Number: Meeting Room

21   IEEE LIFE MEMBER AUSTIN - 21 MAY 2019 MEETING
BIG BEND NATIONAL PARK

Time: 6.00 pm - 9:00 pm **-- MORE INFO AND REGISTRATION:** https://events.vtools.ieee.org/m/193380

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/

Big Bend National Park is southwestern Texas is an amazing place that every Texan should visit in the fall, winter or spring, although it is closed in the summer, when it becomes an incredibly inhospitable place

Agenda:

6:00 PM - 6:30 PM - BBQ Dinner on your own and networking
6:30 PM - 7:00 PM - Business
7:00 PM - 8:00 PM - Presentation

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

22   IEEE CTCN - DR. MARCEL J. E. GOLAY, A RETROSPECTIVE

Time: 6:00 pm - 8:00 pm **-- MORE INFO AND REGISTRATION:** https://events.vtools.ieee.org/m/198439

Topic: Dr. Marcel J. E. Golay, a Retrospective

Abstract: Dr. Marcel J. E. Golay was born in Switzerland and received the License of Electrical Engineer from the Swiss Federal Institute of Technology in Zurich in 1924. Golay then joined Bell Labs in the U.S. for four years before going to the University of Chicago where he received the Ph.D. in physics in 1931. He then joined the U.S. Army Signal Corps at Ft. Monmouth, NJ where he spent much of his career during WWII and thereafter.
Dr. Golay was well known in the field of optical instrumentation; he was a consultant with and later employed by Perkin Elmer for many years where he improved the Golay Infra-Red Detector. Golay applied mathematics to many problems resulting in contributions to communication codes, error detecting and correction codes and other advances in electronics. Golay returned to the Federal Institute of Technology in Zurich near the end of his life.

Speaker:
Bob Hunter

Bio: Robert D. (Bob) Hunter is a retired manager of regulatory compliance and consultant whose published books treat intellectual property (IP) from a management perspective (not a "how-to"). Bob was one of the founders of the IEEE Consultants organization and served as Chair of the Central Texas Section (1980). Bob is a Life Senior Member (LS) of the IEEE, a Life Member of the Association for Computing Machinery (ACM), and a Fellow of The Society for Standards Professionals (SES). Bob obtained BS and MS degrees in electrical engineering from Drexel University in 1959 and 1962, respectively. Bob was employed at Philco as a Patent Engineering Specialist for 12 years.

Location:
PoK-e-Jo's Restaurant
2121 W. Parmer Lane at Lamplight Village
Austin, Texas
United States 78727

23   IEEE COMPUTER & EMBS AND COMSOC & SP JOINT CHAPTERS - AUSTIN, SPECIAL SESSION ON "CYBER-PHYSICAL SYSTEM CHALLENGES TO THE TRUSTWORTHINESS OF SYSTEMS"

Time: 6.00 pm - 8:00 pm **-- MORE INFO AND REGISTRATION:** https://meetings.vtools.ieee.org/m/198494

IEEE CTS Austin Computer & EMBS and ComSoc & Signal Processing joint chapter would like to invite you a special talk on

Topic: "Cyber-Physical System Challenges to the Trustworthiness of Systems"

Abstract: As defined by the National Science Foundation, Cyber-physical systems (CPS) are engineered systems that are built from, and depend upon, the seamless integration of computation and physical components. Examples of CPS include autonomous vehicles, factory and home robots, power grid, smart highway. Since the proper functioning of CPS depends on the collaboration between computing elements, communications and control devices, the safety and security of CPS must take into account the interaction between computing, communication and control. In this talk, we shall discuss some of issues in the engineering of efficient, safe and secure CPS.

Speaker:
Prof. Al Mok, UT Austin
Professor, Quincy Lee Centennial Professorship In Computer Sciences

Bio: Areas of Interest: Fault-tolerant hard-real-time systems, system architecture, computer-aided system design tools, and software engineering
Current research include conducting fundamental research in the area of distributed real-time systems. My primary concerns include specification techniques for real-time systems, algorithms for guaranteeing stringent timing constraints and understanding the trade-off between the robustness and response times of time-critical systems. The goal is to develop a formal framework for automating the analysis and synthesis of robust real-time systems. Application areas include robot control systems, avionics software and industrial process control systems. Funding is being provided by the Office of Naval Research to develop a highly automated design environment for real-time systems.

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