



Foothill Section

August 2023 Monthly Newsletter

IEEE Foothill August ExCom/OpCom Monthly Meeting

Prepared by: Max Cherubin | Proofread by: Prof. Gerald Herder

The August ExCom/OpCom Monthly Hybrid Meeting for the IEEE Foothill Section took place promptly at 7:10 pm. In the absence of Gerald Herder, who was representing the Foothill Section at the Section Congress, the chair reviewed the minutes from the previous meeting and then proceeded to address the agenda items.

At the meeting, the first topic discussed was rebates for the student section. The chairperson reminded the officers to keep track of their events using vTools and submit an annual report to receive the rebate. Additionally, the chairperson announced that the section will be sponsoring Sustech 2024 again. They also discussed being a Life Member and what are the requirements to be a Life Member. The chairperson also brought up the FISTS 2024 (Forum for Sustainable Transportation Systems) during the discussion.

Section and Committee

Osman Ceylan gave an update on the growth of our social media pages. We are pleased to see significant progress, with LinkedIn being our top professional platform. Osman reminded the team to continue sharing events on their social media profiles as it is an effective way to promote our section. Additionally, he mentioned the 2023 Student Design Competition, with 12 teams registered and 7 teams participating in 10-11 circuits.

Regarding Membership Development, our current membership count is 909 which is an increase of 25 from last month. However, we did not have any senior promotions in July. However, with the fall semester approaching, we anticipate a further increase in our membership count.

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Students Chapter

Among the students chapter only CPP and CBU representatives were able to report since most universities are in summer break.

Paul Tran, representing CPP, reported that they have planned one event - the Club Fair - which will take place on either the 23rd or 25th. Additionally, during the board meeting, they discussed their plans for the upcoming semester.

Danny Aleksak from CBU announced that they will have a booth at the Club Fair and several workshops planned for the upcoming semester. Among these workshops are RC Cars for the first semester and potentially a Micromouse Competition for the second semester.

Technical Committees

Unfortunately, Scott Wedge is unavailable at the moment, but we were able to obtain a report on the MTTs Chapter Chair Meetings held at IMS 2023 in San Diego from Osman Ceylan. According to Ceylan, there were no presentations during the chapter chair meeting due to time constraints. One of the topics discussed was the difficulty many chapters face in getting people to attend in-person events. While it was a lengthy discussion, no clear solution was found. MTT is planning to offer low-cost VNAs and measurement kits for training purposes, and they encourage nominations for more members and chapters. Additionally, they plan to provide more awards in the future.

Dr. Jenny Yu reported on the success of SETC 2023, which featured nanotechnology projects from 30 international teams. The submissions were as follows: 12 from the US, 4 from Indonesia, 13 from India, 1 from Japan, and 16 funnel submissions. The competition had three categories for high school students and awarded one first prize, one-second prize, and one-third prize. In the national school category, there were three third-prize winners who scored equally, as well as one first-prize and one second-prize winner. Winners in each category received certificates and a few hundred dollars. The organizing team was composed of 12 engineers from academia and industry professionals who served as judges and supported the alumni community. Local companies in Southern California also participated as sponsors to support the area students.

In September, Dr. Koji Yamashita from PES will host an event centered on analyzing the integration of energy communities in distribution network operations. The guest speaker for the event will be Prof. Alberto Borghetti from the Bologna Institute in Italy. Dr. Yamashita shared that there will be additional seminars or webinars in the future with possible topics and speakers. The schedule for these events will be discussed either this year or next year.

Affinity Groups

Kim Mosley initially believed that no report had been filed regarding the joint event with the Computer Society last month. However, it was later discovered that the report had indeed been successfully submitted. There have been no additional activity reports from WiE yet, but plans for future events are still underway.

The Consultants Network did not hold a meeting in August, but will resume their meetings in September.

Art Sutton will be reporting on behalf of the Southern California Council regarding their activities.

DeVry University-SoCal: Cloud Computing Security

By: Prof. Nazila Safavi

On July 21st, an event called Cloud Computing Security was held by DeVry-Socal and via WebEx. Dr. Penn Wu presented it. This presentation starts with a discussion about why Security issues exist in cloud-computing environments. It then continues to discuss the main sources of challenges due to the deployment, service, and network models of cloud computing as well as the top 5 private cloud security issues. The presentation will also review the last service and discuss about the security issues.

Dr. Wu has been teaching at DeVry University since 1999. He mainly teaches technical courses at both graduate and undergraduate levels. Dr. Wu holds a doctoral degree in Information Systems from a research university, in which he developed a habit of writing research papers. He frequently publishes research papers in academic journals and conference proceedings. This hobby of Dr. Wu not only fulfills his professional development requirements, but also allows approaching new knowledge domains and skills.

Student Design Competition 2023

By: Osman Ceylan

International Microwave Symposium 2023 (IMS-2023), the biggest microwave conference and tradeshow, was held in San Diego between 11-16 of June, in addition to technical sessions, workshops, panel discussions, and interactive forums. IMS offers several student events, including 3 Minutes Thesis Competition, Best Paper Award, Technical Bootcamps, and Student Design Competition. The Student Design Competition is consistently among the most interesting and exciting since the students bring their designs to measure at the conference. Participants and visitors can see the designs and talk to their designers.

There were nine design competitions in IMS-2023.

SDC1: Wearable Backscatter Radio Student Design Competition

SDC2: 3D-Printed and Surface-Mounted Bandpass Filter in X-Band

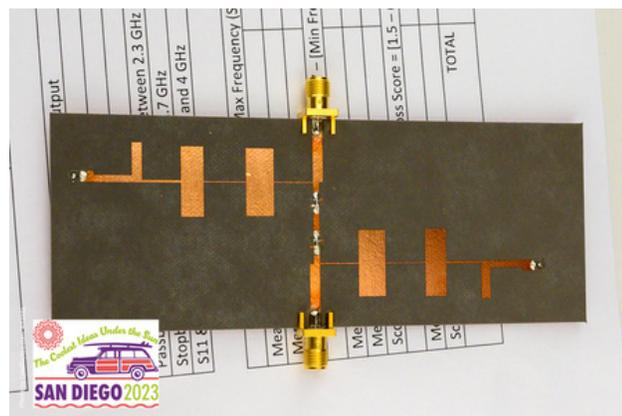
SDC3: Component-Less Bias Tee

SDC4: High-Efficiency Power Amplifier for 50 MHz

SDC5: 3D-Printed Rectennas for Energy Harvesting Applications

SDC6: High-Efficiency Power Amplifier (HEPA) Student Design Competition

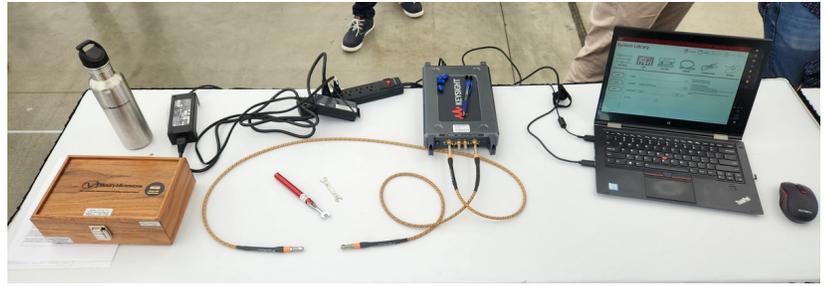
SDC7: Reflectionless High-pass Filter Design for Load-Pull Measurement Set-Ups



SDC8: Radar for Noncontact Vital Sign Sensing

SDC9: mmWave 3D-printed Antenna Design

All levels of full-time students are allowed to participate in the competitions. The Technical Committee of the MTT sponsors Student Designs Competition. Each committee has been given prize money if they choose to sponsor a competition in their technical area.



SDC7 is organized and sponsored by Maury Microwave in our region.

In this competition, the students have designed and fabricated reflectionless filters to improve the stability of the devices during load-pull measurements. Active source-pull and load-pull measurements vary the source and load impedances to extract the performance of the devices in the nonlinear operation. An active load-pull measurement setup has band-limited and highly reflective components that might cause oscillations due to undesired resonances. Reflectionless designs can provide a wide-range 50 ohm termination for the devices under test to improve stability.



Dr. Osman Ceylan of Maury Microwave supervised the competition and measured the student's designs. S-parameters of the design filters were measured. The one having the smallest insertion loss and widest bandwidth got the highest score. Keysight was the equipment sponsor. Seven teams from Germany, Ireland, Turkey, India, South Korea, and China showed up with 12 designs. Each circuit had a different technique and brilliant results. The scores were close, and the competition was quite challenging. Jongheun

Lee of Korea University became the first. Istanbul Technical University (Turkey) and the University of Electronic Science and Technology of China became the second and third respectively.

The winning team will receive \$1500 and publish their design in Microwave Magazine of IEEE MTTs.

September

Calendar of Events

- **September ExCom/OpCom Monthly Hybrid Meeting**

September 12, 2023

- **Consultants Network September Meeting**

September 06, 2023

- **Foothill PES Chapter: Analyzing Energy Community Integration in Distribution Network Operations**

September 01, 2023



Social Media:



<https://www.facebook.com/ieeefoothill>



<https://www.linkedin.com/groups/13516173/>

We welcome volunteers. If you're interested, you can email us at sec.foothill@ieee.org.

