



DECEMBER
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IEEE FOOTHILL SECTION

DECEMBER MONTHLY NEWSLETTER

VOLUME
NO. 6

Happy Holidays from all of us
here at IEEE Foothill Section.

This newsletter is a great opportunity to get in touch with the section's latest and upcoming activities!

As we gather here to close another remarkable year, I stand before you filled with immense pride and gratitude for what we've accomplished together as an organization. IEEE has always been a beacon for innovation, collaboration, and education in the fields of technology and engineering, and this year has been no exception.

One of our most significant milestones this year has been the extraordinary growth and success of our STEM volunteer initiatives. Through tireless efforts and a

shared commitment to inspiring the next generation, our members have made a tangible impact in communities around the world. From organizing hands-on workshops to mentoring students, you've shown what it means to give back and empower the future. Together, we've been able to plant the seeds of curiosity and confidence in young minds, helping to pave the way for the innovators of tomorrow.

“We can't thank you enough for being part of our section. We wish the most wonderful Holiday Season.”

**THANK YOU FOR SUPPORTING US.
WE LOOK FORWARD TO SEEING YOU IN THE NEW YEAR.**

WARM GREETINGS



“Happy Holidays and thank you for being an IEEE volunteer.”

Max Cherubin - IEEE Foothill
Section Chair



This newsletter is brought to you by:

IEEE Foothill December ExCom/OpCom Monthly Hybrid Meeting

The IEEE Foothill December ExCom/OpCom Monthly Hybrid Meeting held at DeVry University in Ontario. The meeting started at 07:17 pm with the review of the November minutes.



First thing, the chair emphasized the election nomination. If no nominations occur, the current positions carry-on for those in the position.

Next thing, the chair is proposing to have a quarterly in-person gathering and the section is okay with it. They just need to find a pizza place or a coffee place which can accommodate a number of people, 40 to 50. The chair also raised concern regarding the status of CSUSB vTools report and he has been trying to reach out to its adviser but he still gets nothing.

TECHNICAL COMMITTEES

Scott Wedge of MTT, he mentioned there will be a Radio and Wireless Week in Puerto Rico. He will attend the Design Conference 2025 in Santa Clara around the final week of January. He will not be attending the ISSCC in February which will be held in San Francisco at the Marriott Marquis. He is excited about the IMS 2025, which will be in San Francisco.

Bo Chen of Photonics reported he held two events about Semicon Lasers on CPP campus. They had three series of talk with that topic. First, it was about basic concept on semiconductor lasers. The second talk was about the typical semiconductor laser structure and what is the important concept for those structure. The third one, how can we make the semicon laser from the III-V materials. He also gave the students some idea how the laser can made through the typical semiconductor

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process to form the commercial laser, and one example of laser fiber operation in one big company was presented. After the talk, he talked with the CPP-Pomona officers for future talks.

Dr. Tamer Omar of ComSoc hosted a talk on Dec. 17, 2024, about VDL (Machine Learning in NextG Networks via Generative Adversarial Networks). Ender Ayanoglu, a PhD in Electrical Engineering from Stanford University, conducted the lecture. He was in the Communication Research Lab at BellLabs. He was also a professor in the Department of Electrical and Computer Engineering and Computer Science at the University of California, Irvine. He will discuss using machine learning in next-generation communication within cognitive networks to address spectrum sharing, detect anomalies, and mitigate security attacks. He also mentioned that he had a meeting with the CPP-Pomona student branch. Michael Nelson approached him for a possible collaboration, and they are working on it.

Dr. Koji Yamashita of PES had three things to report. They had one webinar last month, and he invited an HP fellow from Greece. Unfortunately, they only had a few attendees. This month, they had another webinar. The topic was GRID Code Requirement, which focuses on the Grid Forming Converters. The speaker is Julia Matevosyan. She's working at ESIG (Energy System Integration Group). The last topic he mentioned was the TEC (IEEE Transportation Electrification Conference) Anaheim June 2025. This was bought up by Prof. Nanpeng Yu, who said that the section might be interested in having a booth during the conference, but the section is still undecided whether to go with it because of the volunteer count.

Bassem reported on recent events. David Gonzales noted Block-Chain oriented activities can be supported with funding, for activities you want to do, such as lectures. They plan to have a local blockchain group but must hire several volunteers to qualify.

Panjak Bhowmik of YP will attend Rising Stars 2025 and hopes some students will attend along with him. He wanted to know how the election process would go for YP since he was chosen as the chair for this year. He also wants to volunteer for social media and the website.

Consultants Network had a meeting for this month. However, for the month of January they will go dark since it is the New Year.

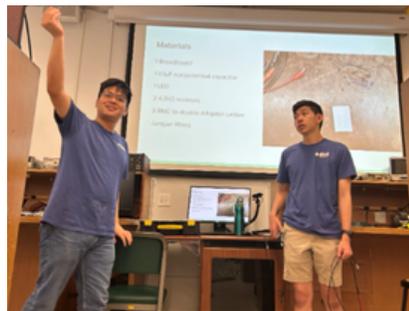
STUDENT BRANCH UPDATE

CCP: CALPOLY - POMONA *By: Michael Nelson*



Oscilloscope Workshop

In our second workshop, we taught 21 students the ins and outs of how to use an oscilloscope. The oscilloscope is one of the most powerful tools that students can use in their lab classes, but it is also one of the hardest to master. In this workshop, students examined the behavior of different AC circuits they would meet in their classes, including a half-wave rectifier, a high-pass filter, and the discharge of a capacitor. We hope that with their participation, more students are able to use oscilloscopes effectively, giving them the opportunity to excel in their future lab classes.



Arduino Workshop Part 1

Eager to reveal the mysteries of the Arduino microcontroller, 27 students attended our Arduino Part 1 workshop. Through the workshop, we introduced the basic concepts needed to understand how to use an Arduino, including the I/O pins, analog and digital inputs, PWM signals, and how to use the Arduino IDE. With a handful of example circuits and many lines of C, we demonstrated how a microcontroller receives external signals can be used as the core of intelligent electronic circuits, even if it's something as simple as an LED. We hope that this workshop will motivate students to start their own projects using the powerful device, as well as provide a brief introduction to their future microcontroller classes.



Arduino Workshop 2

Looking to learn more about the potential of the Arduino microcontroller, 12 students attended our Arduino Workshop Part 2. Students learned to implement function libraries in conjunction with an LED matrix and implemented a small game controlled by a potentiometer. Ultimately, this workshop was built on the basics of the previous workshop to demonstrate how microcontrollers can be used to interact with the world.

EXPLORING INNOVATION: IEEE FOOTHILL SECTION VISIT FUSION RESEARCH FACILITY AND NETWORKING EVENT *(By: Pankaj Bhowmik - YP Chair)*

The IEEE Foothill Section and IEEE Young Professionals (YP) Group organized an exciting technical tour to TAE last September 27, 2024. A cutting-edge fusion research and development site. The event brought together about 80 professionals, students, and enthusiasts for an immersive experience into the future of energy technology.

The highlight of the visit was a guided walkthrough of the facility’s experimental setups, including a closer look at the state-of-the-art fusion reactor. Attendees gained insights into the intricate engineering and technological advancements driving the push toward clean and sustainable fusion energy. The discussions spanned a wide range of topics, from plasma physics to electronics, leaving everyone inspired by the possibilities of a carbon free energy future.

Beyond the technical insights, the event fostered collaboration and networking among attendees. Several participants appreciated the opportunity to connect with professionals and students from diverse backgrounds, all united by a shared passion for engineering and innovation.

The event included dinner alongside a networking event. The event concluded with Q&A session, where attendees engaged with the facility’s engineers and scientists, delving deeper into the challenges and breakthroughs in fusion energy development. The feedback was overwhelmingly positive, with participants expressing excitement for future IEEE events that bring theory and practice together.

This tour exemplifies IEEE’s commitment to professional growth, technical knowledge sharing, and community building. A big thanks to TAE for hosting us. Also a big thanks to all the IEEE volunteers for marketing and making this networking event successful.



UPCOMING EVENTS:

IEEE FOOTHILL JANUARY EXCOM/OPCOM MONTHLY HYBRID MEETING

Jan. 14, 2025

RISING STARS 2025

Jan. 03-05, 2025

SOCIAL MEDIA:



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



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



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