

IEEE FOOTHILL

February 2025 Monthly Newsletter

What's Inside

- **IEEE Foothill February ExCom/OpCom Monthly Meeting**
page 1-2
- **Pankaj Bhowmik**
page 1
- **IEEE R4 & R6 Annual Meeting**
page 3
- **CS Event**
page 3
- **PES**
page 4
- **MATHCOUNTS**
page 5-6
- **Upcoming Events**
page 6

IEEE Foothill February ExCom/OpCom Monthly Hybrid Meeting

The IEEE Foothill held its February ExCom/OpCom monthly hybrid meeting at DeVry University in Ontario and online via Zoom. The meeting officially started at 07:01 pm, which was initiated by the chair. The chair shared his experience during the R4 & R6 Annual Meeting in San Francisco. He raised his concern about the section, especially in volunteering and how to keep graduate students still active in IEEE. He congratulated the students for a job well done in submitting the Student Plan Annual Report.

...continue reading next page



Pankaj Bhowmik

I want to express my heartfelt gratitude for the opportunity to serve as the Chair of the Young Professionals Affinity Group. It has been both an honor and a privilege to work alongside such a dedicated, collaborative, and supportive team. From the very beginning, I was met with kindness, open communication, and a shared enthusiasm for advancing our professional community.

Over the past year, I had the chance to organize several events, and truly appreciate the incredible support and encouragement from the section team. Your commitment made each initiative successful, and I couldn't have asked for a better group to work with. A special thank you to Max and Gerald, this is one of the best IEEE section teams I've ever had the pleasure of collaborating with.

Though my time as chair has come to an end, IEEE remains my professional home, and I have no doubt our paths will cross again. I'll miss working with you all, but I look forward to future opportunities to collaborate and contribute to this amazing community.

Thank you once again for this incredible experience!



Membership Development

For the past month, we had a total of 1007 members, which was an increase of 58 members. We had a successful senior elevation, which was Pankaj Bhowmik. Kailash Alle reached out to Kim but missed the deadline because paperwork like resume, application, and references need to be in at least seven days before the meeting review. Kailash did not make it in January. So Kailash needs to wait until the next meeting. Atma Mani also reached out to Kim, but it was not clearly stated why Atma reached out to her.

Technical Committee

MTT/APS. Scott Wedge, the recent big activity was the Radio and Wireless Conference that was held in Puerto Rico. He was involved in Design Con and IBIS Summit, which was held last week of January. The alliance motion link is a new high-speed protocol that is very common on modeling and signaling, signal integrity simulations for that as part of these conferences. He looks forward for IMS 2025 Conference in San Francisco in June. Scott also announced that he'll be stepping down as chair and Osman as vice chair of Ed/CAS and they will now be replaced by Bo Chen as chair and Richard Fung as vice-chair. Thanks to Scott and Osman keeping our Ed/CAS group active last several years.

Ed/CAS. Bo Chen reported, he gave a recap of the activities they had as he stepped into Photonics chapter chair position. They had activities with local college students, including a seminar series about semiconductor lasers. This series includes three talks about the aspects of lasers for the fundamental concepts and also some three semiconductor material, and also the laser fabrication. For this year, they have three major tasks. They want to expand their membership and promote the Ed/CAS society and maybe in the future include more photonics, whose membership is still low.

Nanotechnology. Jenny Yu and Kai Arellano from Banshee UAV Club reported. During the winter break, they already planned four events. One is in February, two events in March and in April. In late February they will have a fiber optics workshop with Dr. Salik who is a professor in CalPoly-Pomona. The second workshop is going to be RC aircraft electronics and it's being run by one of the Banshee UAV students and he'll be going over basic wiring, hardware and then a quick quad copter demonstration. The third workshop is SolidWorks workshop to do aircraft 3D modeling. Their club specializes in 3D scanning. In April they will have Chris Lai, a CPP alumni, doing an autonomous race car workshop. They students will get to get all the parts to make an RC car, and then they'll build it and race it within.

ComSoc. Dr. Tamer Omar reported. He said they already have the equipment parts for the students' workshop. They will eventually need volunteers for the workshop. The MOA was almost done when he worked with Bassem Maurice and the teachers of the participating school. He also mentioned that for the past month, he had multiple joint workshops with other sections. He also submitted his paper for the SusTech 2025 Conference. His paper is about Net-Zero Smartphone Monitoring System. Another project that they are working on is the HackFR One Software Defined Radio.

PES | Dr. Koji Yamashita had their webinar last January 30th with a speaker from Israel which they had a total of nine attendees. We have potential speakers, however they are not available for the month of February and March. The latest one will be in April which will be posted in vTools soon. PES webinars and upcoming webinars will be uploaded in their YouTube account.

CS | Sean Hamilton and Bassem Maurice reported. They held few joint activities with the Orange County Computer Society and Region 6 Computer Society. The January 22nd event, talked about zero trust architecture which was an emerging trend and in cloud engineering. It also covered chaos engineering which is a way to test your disaster recovery systems in a production like environment. So those are neat things learn and be exposed to. It also touched on privacy engineering, which is an engineering field that is necessary. He also did a presentation on modern data streaming practices, sharing what he has learned over his career. Bassem attended the CC membership meeting. It was a three-day event and the key topic was about engagement of industry. They talked about how best to engage industry and two areas seems to be the key or standards.

Blockchain Local Group | Sean Hamilton is initially planning to create a Blockchain Local Group for the section and David Gonzalez is willing to help him start. Blockchain Local Group is basically the technology behind people who knows crypto currency. It's for finance, real estate, medical purposes, pharmaceuticals.

IEEE Region 4 & 6 Annual Meeting

Last January 24-26 IEEE Region 4 & 6 had its Annual Meeting at Embassy Suites by Hilton San Francisco Airport Waterfront. It was attended by different chairs from different sections. Leaders and volunteers were able to share highlights, insights and success of each respective section/region.



Sean Hamilton

CS: Moving Fast and Slow - An Overview of Modern Data Streaming Practices

In today's digital landscape, organizations must process vast amounts of data at both high speeds and high accuracy to stay competitive. Our recent session, "Moving Fast and Slow: An Overview of Modern Data Streaming Practice," provided a deep

into the world of real-time (Fast Data) and batch (Slow Data) processing, explaining how business leverage both approaches for trustworthy and scalable data-driven decision making.

The presentation covered:

- What is data streaming? An introduction to event-driven architectures and how they differ from traditional batch processing
- Fast vs Slow Data: When real-time insights are crucial and when aggregating historical data provides better value.
- Key Challenges: Ensuring data quality, scalability, security, and compliance in streaming pipelines
- Cloud & Open-Source Solutions: A comparison of Azure, AWS, GCP, Kafka, and Flink for ingestion, processing, and storage
- Data Governance: The role of encryption, tokenization, and access controls in securing real-time data.
- Cost optimization strategies: Best practices for managing event retention, autoscaling and performance tuning.
- Real-world use cases: Streaming in fraud detection, IoT monitoring, and personalized customer experiences
- Future trends: How AI, event-driven architectures, and edge computing are shaping the next era of data streaming.

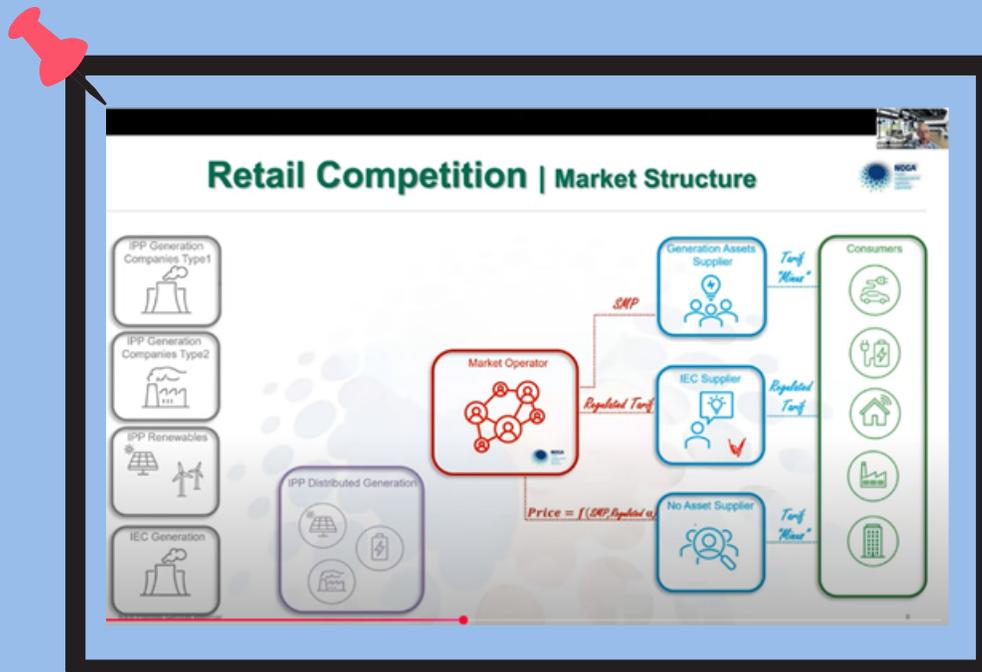
PES: Grid-Forming Inverter Based Resources and Emerging Standards

Mr. Aronovich provided an overview of Israel's evolving electricity retail market, shaped by the 2018 Electricity Market Reform and System Marginal (SMP). The Israel Electric Corporation (IEC) holds 62% of the market, while 34 retailers share the remaining 38%, using bilateral agreements or market price formulas. 15-minute smart meters improve pricing accuracy, though non-smart meter customers pose billing challenges. With 35 retailers, competition centers on tariff discounts, fostering growth, with the retail share expected to be 50%. Mr. Aronovich addressed profitability challenges and the impact of market reform, balancing consumer choice and volatility concerns. Future trends include digitization, demand response, and regulatory changes, shaping Israel's competitive electricity landscape.

The webinar attracted a total of nine participants. Despite the small attendance, the event fostered engaging discussions among power engineers. Mr. Aronovich repeatedly emphasized that Israel's power grid operates in complete isolation due to the absence of interconnections, similar to an islanded system, making it a unique of the country's grid.

The recorded video of the seminar is now available on the IEEE Foothill Section PES Chapter website. Interested individuals can visit <https://foothill.ieee-bv.org/category/pwenergy/> for more details.

The next webinar is scheduled for March 2025. While topics and speakers are yet to be finalized, grid operation challenges for TSOs with the energy transition in the Netherlands and Korea WAMS are planned for April and May, respectively. Stay tuned!



MATHCOUNTS



MATHCOUNTS is a nationwide math coaching and competition program for middle school students. The local (also called Chapter) competitions take place in February, state competitions in March and national competition in April. Competition consists of written, individual and team rounds and an oral round, which is unofficial at the local and state levels but official at the national level. Local and State Competitions rely solely on donations/grants and volunteer time.

East San Gabriel Valley Chapter Competition

- Held at Cal Poly, Pomona, February 22, 2025
- 19 schools, 151 students, 37% girls
- Full results reports will be posted at the California MATHCOUNTS website (in March)

Funding provided by Edison International, IEEE and MATHCOUNTS Foundation

Volunteers:

- 39 volunteers from SCE, IEEE, Cal Poly, North Grumman, Cal Tech, Huntington Library, Zillow, Maury Microwave, AMA Group, UCLA, CPUC, San Marino High School, Industrial Waste Utilization, DeVry University
- SCE Employees participating: Jill Anderson, Ted Gribble, Natalie Mendez, Lisa Nash, Jennifer Ocampo, Richard Song
- IEEE Foothill members participating: Art Sutton, Osman Ceylan, Moe Saouli, Bassem Maurice

Expenses: Total \$2000 which includes \$600 for venue, \$850 for trophies & awards, \$350 for food for volunteers and \$200 for supplies/copies

Results:

- 1st Place Team: Chaparral Middle School - Coach Ivan Macias
- 2nd Place Team: Alvarqado Intermediate School - Coach Linda Kim
- 3rd Place Team: South Pasadena Middle School - Coach Jenny Li
- 4th Place Team: South Pointe Middle School - Coach Gary Dresser
- 5th Place Team - Polytechnic School - Coach Gary Vargo

...see photos on the next page.



Goddard Middle School



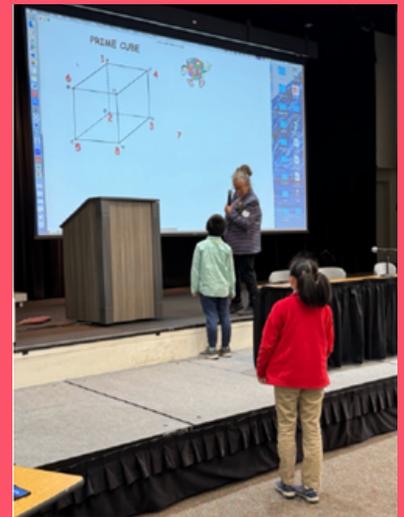
Polytechnic School



Clairbourn School



Huntington Middle School



Cal Poly Math Prof. Greisy Winicki-Landman with a fun afternoon activity



Highest scoring student from each school got a ribbon

Upcoming Events

- **IEEE Foothill Section March ExCom/OpCom:** March 11, 2026
- **IEEE Foothill Consultants March Meeting:** March 05, 2026
- **Blockchain Series:** March 18, 2026 and March 26, 2026