

IEEE Kerala Section Activities

IEEE Kochi Sub Section

IEEE HAC Grant Win of \$35000 for IEEE Kerala Section project

A proposal for IEEE HAC Humanitarian Projects titled “Techno Unnati: Revival of flood affected Kerala School through technology” submitted by Dr. Bijoy Antony Jose of CUSAT (Secretary, Kochi Subsection) has been approved in March 2019. The granted amount is \$35000 (Rs. 24 Lakhs) for flood affected Gov HSS Kuttamassery near Aluva. This project aims to build computer lab, library, physics lab and smart classes which will benefit 600+ students. Out of 35 applications obtained worldwide, only 5 were approved. Kochi Subsection chaired by Prof. Aanandan has been helping the school post floods. Bijoy has formed an implementation team along with Kerala Section representatives Sarada Jayakrishnan, Shahim Baker, Sunitha Khan along with Mr. Satish Babu as advisor from HAC.



Figure 1: School immersed in water damaging computer lab and other electronic equipment.

"National Colloquium on Future Technologies: Green Machines, Refurbishing & Eco-friendly Electronics"

A colloquium on Future technologies was conducted by Dr. M V Rajesh at College of Engineering Poonjar sponsored by Dept of Environment and Climate change of Kerala along with IEEE Kochi Subsection of February 22 & 23, 2019. Sessions were held on refurbishing of electronic products, environmental impacts of solar panels and battery, strategies in moving towards green computing, reuse of electronics in industry, and green energy. Mr V R Narayanan, Head of Operations, Maker Village, was the inaugural speaker along with several speakers from IEEE.

"India's Indigenous Processor Program" – National Science Day



Science day celebrations on 25th February 2019 to inspire the young minds of scientific society.

IEEE Kochi Subsection in association with IEEE computer society with organised an invited talk on **India's Indigenous Processor Program** at Department of Electronics CUSAT. It was financially supported by KSCSTE. Dr Neel Gala, the Tech lead of SHAKTI Processor Program of IIT Madras as well as the CTO of Incore Semiconductors spoke on the 350 crore project happening at CDAC, IIT Madras and IIT Bombay on developing indigenous processor in India. This was held as a part of the National

Report by: Dr. Bijoy A. Jose, bijoyjose@cusat.ac.in

PELS SB Chapter inauguration and invited talks

IA/IE/PELS Jt. Chapter Kerala organized inauguration of recently formed PELS SB chapters and conducted invited talks in three PELS SB chapters during March 2019. Prof. K. Biju, Secretary, IA/IE/PELS Jt. Chapter Kerala coordinated these programmes. The resource person was by Dr. Sanjib Kumar Panda, Professor of National University of Singapore (NUS) and PELS Asia-Pacific Regional Chair.

1. GEC Kannur

The inauguration of IAS and PELS student chapters of IEEE SB GCE Kannur took place on 11th Mar 2019. On the same day a technical talk was delivered by Prof. Panda on the topic "Can a dumb electrical load be made smart using electric spring to mitigate renewable energy source variability issue?". 63 IEEE members attended the event and talk.

2. GEC Thrissur



The IEEE PELS SBC of the Government Engineering College (GEC), Thrissur was inaugurated on 12th Mar 2019 by Dr. Sanjib Kumar Panda, Professor of National University of Singapore (NUS) and PELS Asia-Pacific Regional Chair. Dr. Jaison Mathew, Staff Advisor, PELS welcomed the gathering and introduced the speaker to the gathering which was followed by presidential address by Dr. B Jayanand, Principal-in-Charge GEC. In his inaugural address, Dr. Panda presented a brief history of the PELS and various activities carried out by the society. He stressed the importance of serving the community and the institution back through various programmes connected with PELS such as Empower a Billion Lives competition. He informed the gathering about different opportunities for IEEE PELS members. Dr. Panda also commented on the ongoing trends in transportation industry such as electric vehicles and how power electronics can play a major role in this area. Dr. Panda began his lecture by stressing the importance of increasing photovoltaic generation to reduce the Grid Emission Factor (GEF). One of the drawbacks of conventional system is that generation side has no information about the demand. Also the variations in the source side affect the critical load adversely. To protect the critical-load from these variations, Dr. Panda introduced the concept of electrical spring. The electrical spring absorbs the variations in input voltage to control the voltage across non-critical load while the voltage across the critical load is maintained within the required limits. This improves the reliability of the system to a great extent. The non-critical load together with electrical spring forms a smart load. The talk was followed by an interactive session with the students. 32 IEEE members attended the programme.

3. CE Karunagappally



The PELS SBC of College of Engineering Karunagappally was inaugurated on 13th March 2019. Prof. Muhammed Kasim S (Chair IA/IE/PELS Jt.Chapter Kerala) was present. 35 IEEE members attended the programme.

Workshop on PCB design and fabrication

On 1st Feb 2019, the IEEE IAS SBC of GEC Thrissur conducted a workshop on 'PCB Designing and Fabrication'. The resource person was Dr. Jaison Mathew. This workshop gave immense knowledge and information in the development of PCB's to the students. The event was conducted by the students itself which made a much better environment for the participants. Enabling them to have more interaction and clear their doubts without any shyness. The interaction with the participants on the workshop made the volunteers to have a much better idea of what the students wish to have. The workshop had a participation of over 30 students.

Workshop on circuit simulation using Proteus

The IEEE PELS SB Chapter GEC Thrissur conducted a workshop on 5th Feb 2019. The intention of the workshop was to help the students to have a deeper knowledge of the circuit with the help of circuit simulation using Proteus which could help them with their future studies and projects. Dr Jaison Mathew was the resource person. The workshop discussed the need for simulation, different tools available in Proteus etc. It was a fully hands-on workshop. Participants designed and simulated simple circuits during the session itself. Assignments were given for analysing the effectiveness of the session and the follow up was done. The workshop made the students gain a deeper knowledge on the topic. The workshop gained immense appreciation from the students. A total of more than 34 students participated.

WiE Insight



IEEE IA/IE/PELS Jt. Chapter Kerala celebrated the spirit of womanhood with " WiE Insight" as a part of international women's day 2019 to tribute all women who brought phenomenal change in the society. The program was aimed to elevate the unlimited power of women in the context of science and technology. WiE insight conducted from March 8 to 16. About 25 events happened around Kerala as a part of WiE Insight. The program mainly focused on benefits of girl student members in IAS, IES and PELS. The major activities conducted as a part of WiE insight was a photographic contest and a two level quiz competition naming Quest. The topic of the photographic competition was "Women's Day Celebration and Women Empowerment". About 15 entries were received for the competition around the SBCs in Kerala.

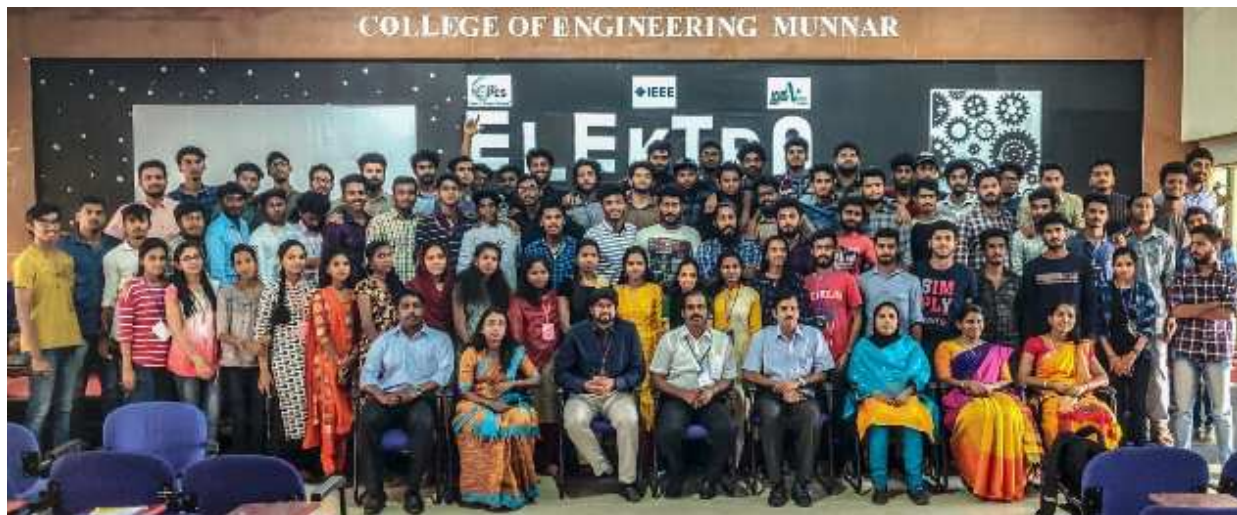
Industrial visit

An Industrial visit to the Load Despatch Centre, Kalamassery was jointly organized by the IEEE IAS and PELS SB Chapters of Musaliar Engineering College of Engineering, Chirayinkeezhu on 23rd Mar 2019. The visit gave an insight into understanding the current distribution to domestic consumers, factories and also how the parameters travel around the stations. 25 IEEE student members & four faculty members joined the trip.

ELEKTRA 2019

A three day technical summit 'ELEKTRA 2019' was held at College of Engineering, Munnar during 5-7 Apr 2019. The event was coordinated by Department of EEE in association with IEEE PES & IAS SB chapters of College of Engineering Munnar. The event was inaugurated on 5th Apr by Mr Jabir Mudambra , Electrical Inspector, Idukki District. In his inaugural address, Mr Jabir Mudambra talked about the advancements in electrical engineering in modern days. It was followed by a technical session by himself on the topic 'Electrical Safety'. The technical session was followed by an ice breaking session which made the delegates more comfortable and relaxed. The programmes of the first day ended up with a campfire in the evening followed by the dinner.

The proceedings of the second day started with an industrial visit to Solar Powered Micro grid, Marayoor and Hydro Electric Power Station, Mattupetty. The delegates were shown the operations of the plants and control rooms by the staff. Two parallel workshops – "Installation of Solar PV systems" and "Blockchain" were held in the afternoon. . It was followed by a session on the topic 'Battery Designing and Management in Industrial Area' By Er. Ani Thomas, Area Manager, Exide Industries Limited. Cultural events were presented by both external and internal delegates in the evening. The second day ended with a dinner thereafter.



The third day programmes started with a sunrise trekking. It was one of the major attractions of the event and made the joy of the delegates in its peak. The trekking was followed by a session on 'Entrepreneurship' by Er. Sonia Mohandas, CEO, Waferchips techno solutions. There was an technical interacting session on the topic Artificial Intelligence in IOT taken by Er. Archu S Vijay, CTO, Waferchips techno solutions. The last session was a technical talk on 'Basics of Control and Protection of Power System' by Dr Krishna Kumar, Assistant Engineer, KSEB. The delegates were given basic awareness on power system protection during the session. It was followed by valedictory function and a feedback session. The three day programme ended up with a lunch and a photo session.



102 delegates (58 IEEE members and 44 non-members) from various engineering colleges across Kerala attended the programme. This three day technology summit received appreciations from all delegates in terms of the quality of the various sessions, industrial visit, trekking, internship drive and the overall conduct of the event. The IEEE members and volunteers of SB Chapter were immensely satisfied in the way the event was organized, and it is decided to conduct the programme in the future also.

Report by: K. Biju, bijuk@ieee.org

Gautam Buddh Nagar to launch e-portal to report workplace harassment: UP's Gautam Buddh Nagar district has tied up with an IT firm to build a software and website that will allow women to report workplace sexual harassment online. The software, expected to be launched on August 15, will be available for private and government organisations. Authorities said they will provide a list of private organisations operating in the district.

Govt recognised over 1 startup every hour in May 2019: DPIIT Secretary Ramesh Abhishek tweeted that since the beginning of the Startup India initiative, 18,861 startups have been recognised by DPIIT. "In May 2019 alone, 814 startups have received recognition. This is more than 1 startup every hour!" he added.

IEEE Kerala Section Student Activities

The student Activities of Kerala Section is vibrant in organizing activities and promoting the vision of IEEE across the section. With 97 student branches the student team led by the student activities chair support and volunteer to any activity that needs technological solutions.

For effective management of such a vibrant, geographically spread student membership, the section has been following the hub and spoke administrative model; the Local Integrated Network of IEEE in Kerala (LINK). The primary aim of LINK is networking student branches in an effective way, thereby increasing the value in IEEE Student membership. LINK has achieved tremendous results, causing an exponential increase in student branches and student activities in IEEE Kerala Section. The LINK and its subsidiary HUB teams (three in numbers divided as Travancore Hub, Kochi Hub and Malabar Hub for the geographic distribution of Kerala Section) are being trained with effective leadership skills which is being passed on to the student community, thus improving key skills like professionalism and ethics in students.

Under the guidance of the Student Activities Committee, more than 650 events were conducted at student branch level during the span of January to May 2019. Moreover the student team hosted 19 events across the section that aimed in technical upliftment of its members. Apart from that, training for newly inducted student office bearers was also held so as to familiarise them with their duties and responsibilities. The International Women's Day was celebrated as a week long celebration named WiE Wave and 140+ events were reported as part of WiE Wave 3.0. 80+ events were also reported as part of Science Week celebration in accordance with the National Science Day on February 28th.

SCIENCE WEEK 2.0



February 28th is Internationally celebrated as Science Day. To convey the importance of this day, the student community of IEEE Kerala Section decided to conduct a series of events related to science, creating awareness about the day and how the day was declared as Science Day. Various

technical events, conferences and competitions were conducted in SB's across Kerala. The event focused to develop the technical skills of the student in a comprehensive and effective way through various hands on session. **80+ events were held under Science Week celebration.**

ORE Tech Community Launch

ORE the technical community of IEEE Kerala Section Students was an initiative by IEEE Kochi Hub. ORE stands for Outreach for Resources in Engineering. The community is built upon the IEEE Student Technical enthusiasts with skill sets and interest to learn with knowledgeable people from different disciplines and streams, students and professionals as our mentors. The community was launched through Social Media on 5th March 2019 with a poster launch.

WIE WAVE 3.0



March 8th is worldwide celebrated as International Women's Day. In regard to this IEEE KERALA SECTION and WOMEN IN ENGINEERING team of IEEE LINK decided to celebrate the social, economical, technical and cultural achievements of Women. The achievement of this event was that from the beginning till the end, from discussions till execution, each and every single step was coordinated solely by girls.

WiE Wave 3.0 had taken the theme "Balance for Better; Technology for Future" stressing on the importance of gender equality and technical empowerment. The event was celebrated from March 5th to 15th of March 2019. Stressing on the importance of gender equality and technical empowerment. This year, the main theme will be split into four sub-themes

for the Student Branches to focus on the different perspectives of the importance of uplifting technology and sciences among the women community. The sub -themes aims at highlighting the main theme itself more effectively, so that the events can be conducted by the members and volunteers with better quality and relevance. **140+ events were held under WiE Wave 3.0**

VIRAGO 2.0



IEEE Travancore Hub conducted VIRAGO 2.0, the edition of the hub's women's day event on 9th March 2019 at UKF College of Engineering, Paripally, Kollam. The hub's women's day event which attracted 40 participants consisted of a talk series including inspiring and informativetalks by Ms. Arundathy Kurup, Ms Lakshmi Shaji and Mr. Sreenath Sasikumar on the topics 'A scholar's guide to opportunities in tech', 'Demystifying analytics and role of machine learning' and 'Cyber Security' respectively. The event also included an ice breaker session and a technical session called 'Inside Out', which included dismantling and reassembling of a CPU. This was done by participants with the

assistance of Mr Manoj.

Minerva 4.0

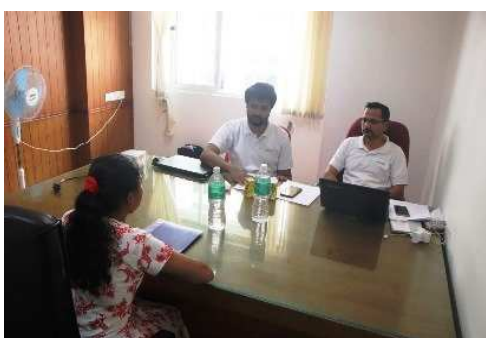


IEEE Kochi Hub conducted its most prestigious and very own WIE Event of all times, Minerva 4.0 on March 15th, 2019 at Viswajyothi College of Engineering and Technology, Vazhakulam, marking the end of the WIE WEEK 2019.

The fourth version of Minerva, held this year, in contrast with the previous versions of the yesteryears witnessed a total change in its structure. The event was held as a single one for all zones, with 52 female delegates from colleges all over the Kochi hub and various disciplines and year of study. The prime focus of the one-day event was to not simple empower our girls but empower them technically. This change was a new introduction to the typical series of events being conducted and worked successfully with all delegates completely satisfied with the sessions and great feedback was given from their side.

The guest speaker for the day was Ms. Anjana Krishnan, Ruby on Rails developer who handled a session on programming using Ruby for the girls. A small idea pitching competition was held alongside the two mini-workshop sessions on Bash-Linux handled by Mr. Balu M N, former Chairman at IEEE SB VJCET and another one on Git and Git Hub by the team from ORE Community of IEEE Kerala Students.

IEEE Job Fair 2019



The IEEE Job Fair 2019 is a Career Service dedicated to educating, advising, and connecting IEEE members to global opportunities in order to foster their intellectual, social, and personal transformation. The IEEE Job Fair 2019 ensue 2018 Job Fair, which was initiated by the IEEE Kochi subsection and its Student activity group, IEEE Kochi Hub. It is a recruitment drive which provides a rostrum for all the IEEE members across the country to clearly express their potential contributions, their technical, managerial and 'soft skills' such as communication and professionalism. IEEE Job Fair is also an opportunity for the attendees to evaluate different organisations and whether the opportunity they've applied for aligns with their professional interests, skills, values, and goals. The event had participation from 42 student branches across the IEEE Kerala Section and

was held on **30th and 31st March 2019** at **Muthoot Institute of Technology and Science**. A total of 12 companies from various sectors sought to utilise the opportunity to get the best talent for their organisation. Around 300+ students attended the event bringing about a change of great magnitude in their approach to professional life. **Prominent companies like Support Sages, IROV, CIED Technologies, Infusory Future Tech Labs, Inker Robotics, Tachlog, Metric Tree Labs, Green worms Eco Solutions, DiDroid Technologies, Onesoft, ZappyHire and Pumex Infotech were our recruiters this year.** At the end of the two day job fair, around 38 students were placed in 7 of the recruiting companies (some results are yet to be announced) and it ended on a positive note. The initiative was well appreciated by the section, the companies and the students. The companies were glad to see such an enthusiastic crowd at a job fair and congratulated the organizers on the successful conduct of the event.

WIE-Learn: Mentorship program for Girls

The technical community of IEEE Kerala Students and IEEE Kochi Hub along with WIE (Women in Engineering) affinity group, on 7th Apr 2019, organized an online mentorship program, called WIE - Learn, with the aim of promoting the recruitment of women in technical disciplines. The training program started from WIE week and continues till the WIE summit 2019.

The course was open for students from SBs all over the Kochi section. Teams of five were eligible to apply for the course, and a total of 17 teams were shortlisted, from about 45+ teams. Each team was assigned a mentor. (mentor to student ratio was 1:5).

The training sessions were given online, with meetups being held once in a while, to check on progress, and conduct discussions. These sessions were designed for every week, with weekly projects being given to the teams. The track chosen for training was 'Web Development', and the course plan was formulated, with instructions being given to both mentors and students.

WIE - Learn, is a new initiative taken up by the WIE, with plans being made to extend it in the coming years.

ROADMAP TO SUCCESS IN ENGINEERING STUDIES - Kannur



Roadmap to success was an initiative by IEEE Malabar Hub to bring awareness on engineering to the engineering enthusiastic students and their parents, in different regions of Kerala. A career guidance program for 12th pass-out students was hosted by IEEE SB VJEC in association with the IEEE Malabar Subsection on 11th May 2019 at Vimal Jyothi Engineering College, Chemperi Kannur. Fifty two students along with their parents participated in the event and the

session was very interactive and the parents and students gave a positive review on the event.

ROADMAP TO SUCCESS IN ENGINEERING STUDIES - Palakkad



IEEE SB of GEC Sreekrishnapuram conducted Road Map to Success in professional education on 11th May, in the college. The program aimed to give the audience an introduction to the various fields in engineering and their scope, mainly through interactive talk sessions with experts in the field.

The event began at 10 am in the morning, with the inauguration ceremony. Dina, WIE Secretary of the SB gave the welcome speech. She was followed by Mrs. Vinita Chellappan, the SB Counsellor, who addressed the audience which consisted of 29 students and their parents and briefed them on IEEE, the event at hand and its relevance. The main speakers followed.

Hack-Kochi: Hackathon Python & ML



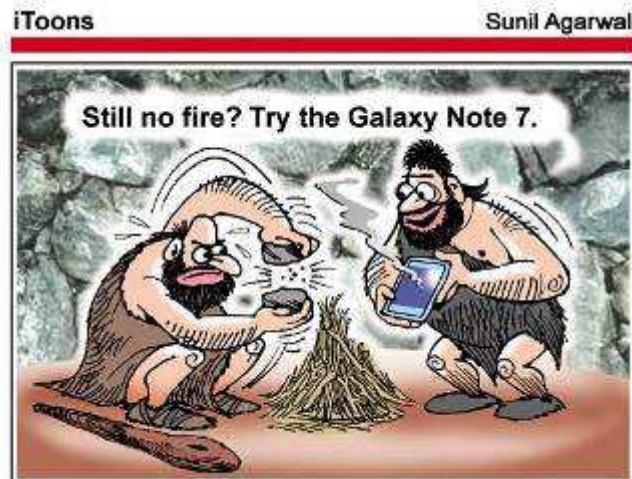
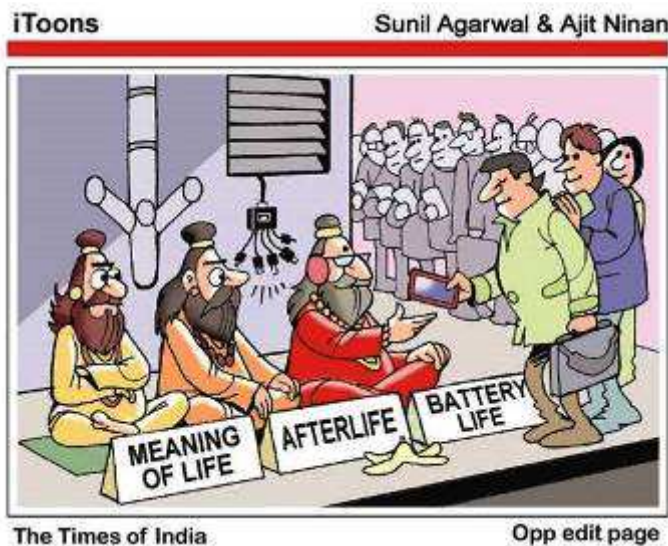
ORE, the Technical Community of IEEE Kerala Section in association with IEEE Kochi Hub conducted Hack-Kochi, the first hackathon of the season on May 18th, 2019 at the Kerala Startup Mission on Machine Learning and Python. The hackathon began at 10: 30 am with a brief introduction about the company by Mr. Jyothis K.S. The participants were given two problem statements well explained by Mr. Deepu Xavier to complete by the end of the day. The 10 contestants were allotted time until 4:30 pm. This was followed by individual presentations of ideas and program codes. The panel allotted 24 hours for 3 people who made significant progress and by 6:00 pm, the event was officially concluded. Prizes and certificates were distributed later.



The Section sponsors an officer training program to newly inducted SB officers. Officer Trainings of 2019 was held at Cochin University of Science and Technology to train student officers on effective student branch administration and planning. Over 110 students from 57 student branches attended the event. Altogether the IEEE Link F2F 2019 was a platform for planning the activities for next year and training section for the new torchbearers. It

also played an important role in helping the members have a better concept on technology and have clarity on their purpose as engineers, varying from research to entrepreneurship.

Report by: Mr. S. Nandan, Chair-Student Activities Committee, IEEE Kerala Section, nandans@ieee.org



MIT 'roboats' can now self-assemble to make bridges, markets: MIT researchers have added new features to its autonomous robotic boats 'roboats', which it had co-created alongside Amsterdam's AMS Institute, that lets them target and attach to each other. The aim of the project is not limited to just on-demand transportation, but to also form "pop-up" structures, such as footbridges, performance stages or even food markets, researchers revealed.