

IA/IE/PELS JT.CHAPTER KERALA

ACTIVITY REPORT 2020

1. PESGRE2020 at Kochi from 2-4 January

IEEE International Conference on Power Electronics, Smart Grid and Renewable Energy (PESGRE2020) - A highly successful inaugural edition!

The first biennial IEEE International conference on Power Electronics, Smart Grid and Renewable Energy, PESGRE2020, ended on 4th January 2020 after an exciting and productive three days of non-stop activities, stimulating discussions, and prolific exchange of ideas between 450 attending power Electronics and Energy Systems professionals and researchers from 15 countries. The conference was organized by IA/IE/PELS Jt. Chapter Kerala and was co-sponsored by IEEE Industry Applications society, IEEE Power Electronics Society, and IEEE Kerala section. The conference focused on the challenges, latest developments and upcoming technologies in power electronic systems, electric drives, renewable energy resources and the operation in the smart grid environment. With this year's conference located in Cochin, Kerala, India, PESGRE2020 emphasized the theme of "Power Electronics and renewable energy for sustainable development" and the conference opened with an inaugural address from Prof. Wang Peng, Nanyang Technological University, Singapore.

PESGRE2020 had received 483 submissions from 19 countries and after a rigorous review process involving 38 technical program chairs and 386 reviewers, 320 papers were accepted for camera-ready submission. Special care was taken to ensure a very good peer review stage with quality reviews for the benefit of the authors. Subsequently, 301 camera-ready submissions were received and finally, 298 papers from 15 countries were presented in the conference. All the presented papers in the conference are eligible for submission to IEEE Transaction on Industry Applications, subject to further round of review of the journal.

The technical program of PESGRE2020 consisted of four tutorials, four plenary talks, two student forums, one industry session, and 44 technical sessions. The tutorials were delivered by well-known experts, Prof. Prasad Enjeti, Prof. Krishna Vasudevan, Dr. Dinesh Kumar, Prof. Anurag K Srivastava, Prof. Sukumar Kamalasadan, and Prof. Sheldon S. Williamson. Plenary lectures were delivered by Dr. Tomy Sebastian, Prof. Wang Peng, Prof. Kashem Muttaqi and Prof. Biplab Sikdar on topics of interest to power engineering community. The sessions were chaired by active researchers from reputed institutes. There was a lot of interaction and exchange of information during the technical program and during industry exhibit.

The Young Professionals also had variety of activities at PESGRE2020. They had a YPP student forum lead by Dr. Sanjib K Panda, Dr. Anurag K Srivastava, Dr. Harish S Krishnamoorthy and Dr. Akshay Rathore followed by a social gathering. Thirty of the young professionals received travel grant from IAS society to attend PESGRE2020.

The conference proved to be an excellent forum for technical exchange among researchers from academia, research groups, and industries. The next edition of the conference, PESGRE2022 will be held at Kovalam, Kerala, India during 2-5 Jan 2022.

Inauguration



Volunteers



2. AGM at Kochi on 5th January

The AGM of IA/IE/PELS Jt.Chapter was held at Kochi on 5th January 2020. The meeting started at 10 am. Mr.Rajendran A R, General Manager, delivered keynote address on the topic 'Metro projects and job opportunities in metro sector'. Dr.Tomy sebastian was guest of honour. 38 members attended the meeting.



Fig. Group photo of participants



Fig. Memento to chief guest



Fig. Keynote address by chief guest



Fig. Audience of the meeting



Fig. Cake cutting celebration

The meeting ended at 1.30 pm with lunch.

3. IAS SBC inauguration of Jawaharlal College Lakkidi on 22nd January

The inaugural ceremony of IEEE-IAS SB Chapter JCET was conducted on 22nd January 2020 at 11AM in the Shastha hall (3rd floor JCET). The inaugural ceremony commenced by a prayer and was followed by delivering IEEE Code of Ethics delivered by Raneena Raoof, Chairperson, IEEE SB JCET. Thereafter the lighting of the lamp by dignitaries was carried out. Mr.Sanish VS, Advisor, IEEE IAS SBC JCET and Branch Counselor, IEEE SBJCET delivered the welcome address describing the inception and establishment of the new chapter. After this Dr.V.P.Sukumaran Nair, Principal, JCET delivered the presidential address.

Followed by inaugural address by the cheif guest Prof. Muhammed Kasim S, Chair,IEEE IA/IE/PELS Jt. Kerala Chapter. He motivated everyone to actively participate in the workshops to get benefited and made everyone aware on the importance of IEEE IAS SBC. The keynote address was delivered by Dr.K.Umesha, Vice Principal and HOD,EEE Department,JCET. He congratulated the entire team of IEEE SB JCET by untiring efforts made by them. Prof.C.Venugopal, HOD,ECE Department,JCET & Ruben Mathew,Student Representative,IEEE IA/IE/PELS Jt.Kerala, gave the felicitation. The ceremony concluded by Arun Sankar M, Chairman,IEEE IAS SBC JCET and Secretary,IEEE SB JCET, delivering vote of thanks. He thanked all the invited guests and participants for gracing the occasion by their solemn presence.

This was followed by a technical talk on 'STANDARDS' by Prof.Muhammed Kasim S. Information about IEEE standards, LAN/MAN standard commitee, BIS, IEC etc were discussed. It was quite an interactive session and was started by 12 noon and ended by 1PM.



Fig. Session by Prof. Muhammed Kasim



Fig. Inauguration of the chapter

21 IEEE members and 26 non-IEEE members participated in the programme.

4. IAS SBC inauguration of GEC Palakkad on 7th February

IEEE SB GEC PALAKKAD marked the new phase of its intriguing and exciting journey of technological development by inaugurating IEEE Industry Application Society SB chapter on 7th

February 2020 in the esteemed presence of K R Mohan Ananthanaryanan, a veteran from ISRO and Dr. Vasanthi, Secretary of IAS Kerala Chapter. An informative, interactive session on 'space launch vehicles' was held after the inaugural function. Finally, a Kahoot session was also conducted. 32 IEEE members and 16 non-IEEE members attended the programme.



Fig. Audience of the session



Fig. Talk by K R Mohan Ananthanaryanan, ISRO



Fig. Felicitation by Dr. Vasanthi V, Secretary IA/IE/PELS Jt.chapter Kerala



Fig. Group photo

5. F2F meeting at Kollam on 9th February

On 9th February 2020, IEEE IA/IE/PELS Jt Chapter Kerala conducted the first Face to Face meeting of the year comprising of the members of 2019 and 2020 Student Execom with a total of 21 attendees at TKM College of Engineering, Kollam. The meeting focused on improving the acquaintance between the members, building a good team camaraderie and volunteer training. Furthermore, it also got into the flagship event of the chapter, AKIASSC.

The session commenced at 10:00 AM, with a silent prayer followed by self introduction by the members. Ensuing which, Prof. Muhammed Kasim (Chair, IEEE IA/IE/PELS Jt Chapter Kerala) shared his insights into the IEEE society and particularly the history and attributes of IEEE IA IE PELS Jt Chapter Kerala. He talked about all the events helmed by the 2019 Execom and about the astounding success of TRIAC. His inspiring words on volunteering stimulated the attendees. He further gave information about the wide range of opportunities awaiting aspirant engineers especially in the field of Electrical engineering.

Prof.Bijuna Kunju (Vice Chair,IEEE IA/IE/PELS Jt Chapter Kerala) handled another motivating session on how to be good volunteers. She pointed out that the volunteers should always remember to give priority to academics and should practice efficient time management.

Following session was helmed by Prof.Biju K (Secretary,IEEE IA/IE/PELS Jt Chapter Kerala) in which he devised the activity plan for 2020 through an active discussion among the members. He talked about the role, responsibilities and duties of each Execom member. He shared encouraging words about how to be diligent volunteers and the importance of academics.

Post the tea break, Er.Anandhu S Kumar (Student Branch Chapters Coordinator,IEEE IA/IE/PELS Jt Chapter Kerala) conducted a volunteer training program which consisted of a presentation on various attributes and details of the IA,IE,PEL societies. He also shared important information regarding the IEEE Website, numerous IEEE awards and Grants. The multitude of opportunities to bring out outstanding contributions were presented.

Nebic Johnson (Student Representative, 2019 Execom IA/IE/PELS Jt chapter Kerala) shared his experiences and wisdom about volunteering. He emphasized the importance of sharing a great team spirit and effective communication between the members so as to bring exceptional results and thereby the joy of volunteering.

Detailed roadmap for 2020 consisting of Poster Contest, Internship program, Project Hackathon, Online Webinars, WIE initiatives, WIE day events, Industrial Visit in association with PELS day celebration, Workshop Series, MDC sessions, Book reviewing and discussion on relevant books, Paper presentation contests etc was discussed.

AKIASSC20 updates were presented by Laya Raj (Travancore Hub WIE Coordinator, 2019 Execom IA/IE/PELS Jt Chapter Kerala and IEEE IAS SBC Chair, UKFC) and IPRECON updates by Akshay Krishnan (Webmaster,2019 Execom IA/IE/PELS Jt Chapter Kerala and IEEE SB Chair,CEK). At the conclusion of the meeting, the developments and discussion results were encapsulated. The meeting ended on a high note with promising visions and spirits for fruitful events and programs for the year, followed by lunch at 1:30 PM.



Fig. Group photo with participants



Fig. Dr.Bijuna Kunju on SB chapter operation guidelines



Fig. Mr.Anadhu S Kumar on membership benefits

6. Technical symposium ‘Kaizen7’ at CE Munnar from 13-16 February 2020

Kaizen 7, an international IEEE Symposium was held on 13th – 16th February 2020 at College of engineering, Munnar in association with IA/IE/PELS Jt. Chapter Kerala. Kaizen 7 is a culmination of technology, innovation, culture and humanity

Boosting a plethora of speakers, workshops, technical events and other cultural events, Kaizen 7 strike a chord inside everyone standing testimony to it. The start of Kaizen 7 fell on 13th February 2020. Kaizen 7 being a much-awaited event an immense flow of participants. the event started by a drone session at botanical garden followed by an exciting session of robotic dance. After the session, students gathered for dinner. After dinner girls and boys moved to their respective accommodations.

The second day of event started with a colourful session of “nature art” which came up with flying colours. This session was followed by an inaugural ceremony.

After the inauguration, keynote address was given by Dr. Saji Gopinath. He thought “necessity is the mother of invention”. He added that a person achieves greatness when the qualities of a true leader combines with those of a true engineer. He shared the secrets of being one in a million and leaving footprints on sands of time. His words of wisdom based on true events nourished souls to seek the meaning of true engineering. Following him, Agrim Prakash ignited the minds of the crowd by his powerful words It was proceeded with an icebreaking session. Then Lt. Esan addressed the mass by his inspiring and powerful words. He shared his life experience which triggered the wish of serving nation. His inspiring session was followed by

Fathima Hakim, a lady dared to be different from rest in the universe. She inspired minds to be different; as being different give birth to rarest creation the world will cherish forever. She also added that “passion give birth to external creations “which dwell in hearts for miles before they sleep. She conducted by pinning the words. “Being different is rare and rare is different from the rarest “. The day ended up with cultural programmes lead by delegates and college band which added to the glam of Kaizen 7.

The third day Kaizen 7 concentrated purely on technical skill enhancements of delegates.

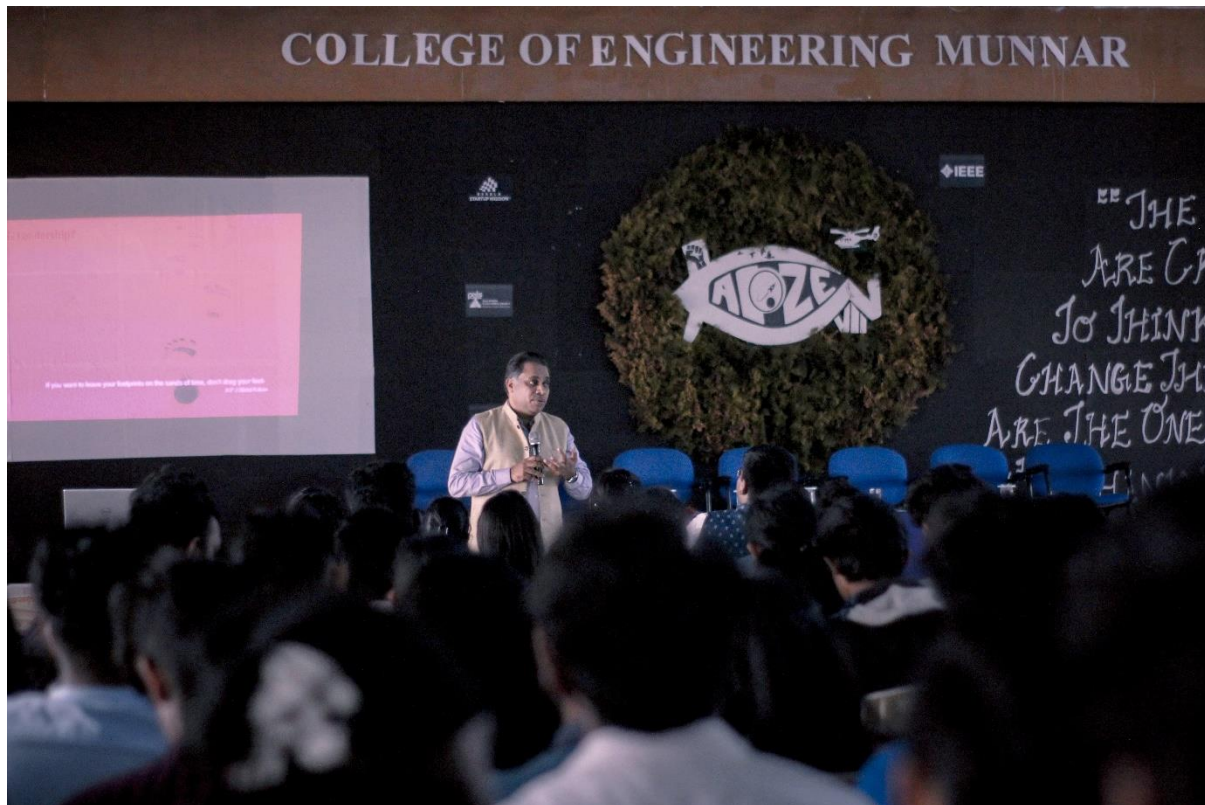


Fig. Dr. Saji Gopinath during his talk

Various workshops were conducted in this domain. Managerial, VLSI, drone, invisibility clock workshops have been done. VLSI workshop helped students to born their knowledge as it the main pillar of most of present research, industrial and commercial activities in electronics engineering. It helped students to gain an added competitive edge towards becoming a high performing VLSI professional managerial workshop helped to develop the aura that surrounds one at the personality development sessions and groom oneself for positive change. Drone workshop equipped delegates to control quad-copter wirelessly by using a remote switch which works on wireless technology that are used in mone broad applications like surveillance and aural photography. Invisibility clock workshop horned the knowledge of potential uses of clock ranging from surveillance and military impetus to serving pilots to watch through the floor of

cockpit to runway below. Workshops were followed by sessions done by Bharath Govind and Mithun Lal. The day set with cultural night and campfire.



Fig. Networking of participants

7. Workshop on 'IoT' during Experion at NSSCE Palakkad on 20th February

XPERION 2020 collaborating with IA/IE/PELS Jt. Chapter Kerala and Industry Applications Society Student Branch Chapter NSSCE bring forth its idea pitching hackathon 'REFLEXION' (Brainstorming). REFLEXION attempts to find a solution for a problem with social relevance. The hackathon begun with a session on IoT after which the participants were separated into teams of 3 or 4. The participants were given time to interact with their teammates through a quick ice-breaking session. To succeed they need to grow up from strangers into a team. The journey from strangers to a Team will enhance their communication skills. Participants were given 3 hours after raising the problem statement. In the 3 hour timeframe, they were required to analyze and arrive at the most appropriate solution for the problem. We gave each group 10 minutes to present their solution to the raised problem. Evaluation began from the time when the problem was announced and last till the group completes their presentation. The hackathon aims not only at raising the social commitment of the students but also developing their personalities as budding professionals.



Fig. Workshop participants

IEEE Student Branch NSS College of Engineering Palakkad hosted its 4-day national event XPERION'20 from 20th Feb 2020 to 23rd Feb 2020. As a part of XPERION, IA/IE/PELS Jt. Chapter Kerala, Industry Applications Society and Power Electronics Society Student Branch Chapter NSS College of Engineering Palakkad collectively hosted an idea pitching hackathon 'Reflexion' on 21-22 February 2020. With 17 delegates (13 IEEE members and 4 non-IEEE members), 10 volunteers and 3 coordinators the event was packed with fun frolic and technical elation. The event marked its start with a workshop on IoT handled by Er. Shabeer I, Spoke Innovations Ltd. He proved to be a perfect blend of a prominent entrepreneur and a skilled engineer. Being a technical enthusiast, he efficiently handled the basics of IoT with the delegates and effectively dealt with their queries on the topic. The second stage of the event began with sorting of the delegates into groups of three. The second stage included a treasure hunt spreading over the college campus where the delegates appeared in the groups they were sorted earlier into. The final solution of the treasure hunt gave the problem statement for the hackathon. Next was the brainstorming session. The delegates were required to analyse the problem given to them. They were required to arrive at a solution which was both technically and economically feasible. Delegates in the group presented their ideas where they were cross-checked and the faults were corrected by a panel of judges. Associate Prof. Sujith S from NSSCE and Er. Shabeer from Spoke Innovations Ltd were on judging panel. Apart from the judgement of the panel, the delegates were constantly evaluated on the criteria of group dynamics. With the presentation, the 24-hour hackathon marked its end.

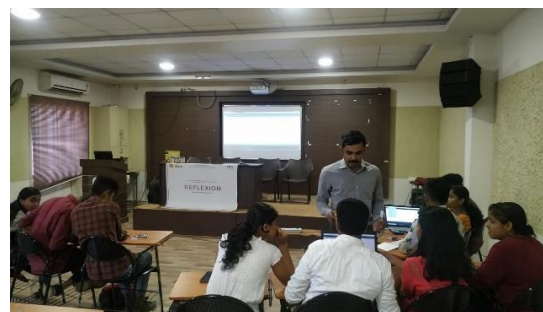


Fig. Interactive sessions.



Fig. Final presentation and judgment.

The winner of the hackathon was team 'Jarvis'. Team members are Megha Manmadhan, College of Engineering Chengannur. Jarin K, Jawaharlal College of Engineering and Technology, Palakkad. Nakul Ganesh, Vimal Jyothi Engineering College. Sasha S- Jawaharlal College of Engineering and Technology, Palakkad. The judgement was announced in the closing ceremony of the event where the winners were given the prize money of Rs.4000. The workshop and hackathon was a great success.

8. Science day celebrations at CUSAT on 28th February

Date: 28/02/2020

Venue: Sophisticated Test and Instrumentation Centre, Cusat, Kochi.

Commemorating the discovery of Raman effect today, indians celebrate as National Science day. On this auspicious occasion IEEE CUSAT IAS SBC conducted a visit to STIC- 'Sophisticated Test and Instrumentation Centre'. Sophisticated Test and Instrumentation Center is an Institution Sponsored Jointly by Kerala State Council for Science Technology and Environment (KSCSTE) and Cochin University of Science and Technology.

The Calibration Laboratories of STIC are equipped with modern calibration instruments and standards that are traceable to National Standards. These laboratories are accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL). STIC offers calibration services for Electro-Technical, Thermal and Mechanical parameters. The calibration services of STIC are made use of by industries, R&D Organizations and other Calibration Laboratories, mainly from South India. The Sophisticated Analytical Instrument Facility (SAIF) of STIC is a facility for Researchers, Students and Industries who require Highly Sophisticated Analytical Instruments for Chemical, Atomic and Spectral Analysis of materials and chemical substances. This facility is sponsored by Department of Science and Technology Government of India. SAIF in STIC is the 12th such facility in the country.

The visit was led by Harigovind, founding chair of IAS SBC and the team consisted of 13 members consisting of 7 IAS members. Students got a chance to see and understand working of Nuclear Magnetic Resonance (NMR) spectrometer mass spectrometer. Live demonstration of ICP - Inductive Coupled Plasma Mass Spectrometer for detecting metallic components in food items was conducted. They were curious to see different part of both Transmission Electron microscope and scanning electron microscope. Students also went to see different calibration laboratories including mechanical, thermal and Electrical labs which deal with standardising various instruments like

clamping CT, weighting machines etc. All experiments and measurements were taken in a controlled environment i.e 20°C with an error of 1°C.

Students were very interactive and were able to understand how their academics were implemented in industries. The visit was helpful students to understand the importance of IAS chapter i.e 'Linking Research to Practice'.



Fig. Participants of industrial visit

9. IAS SBC MBCCET Peermade inauguration on 9th March

IEEE Industry Applications Society SB chapter of Mar Basaleous Christian College of Engineering & Technology Peermade was inaugurated on 9th March 2020 by Er. A. Shajahan, Managing Director, Kerala Automobiles Limited. Dr. C. Pradeep, Principal MBCCET Peermade presided over the function. Prof. K. Biju, Vice-Chair IA/IE/PELS Jt.Chapter offered felicitations. There were two technical sessions were there after the inauguration. The first talk was on 'the sustainable development of e-vehicle' by Er. Shajahan and second talk was on 'Fundamentals of Power Electronics' by Prof. Biju. Students found both the sessions very useful and informative.



Fig. Inauguration by lamp lighting



Fig. Unveiling the chapter opening poster



Fig. Inaugural address



Fig. Audience of the session



Fig. Dias of the inaugural function



Fig. Releasing the chapter approval letter



Fig. Prof. Biju during his session

53 IEEE student members and 70 non-IEEE members attended the programme.