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Annual Newsletter 2019

AKIASSSC '19
5 Day Internship Programme
IEEE PELS Day Celebrations
TRIAC

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IA/IE/PELS Jt. Chapter
IEEE Kerala Section









Advancing Technology for Humanity

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IAS CMD AWARDS 2019

IAS/IES/PELS Jt. Chapter Kerala Section

WEB CONTEST

1st prize for IEEE IA/IE/PELS Jt. Chapter Kerala Section



MOST HAPPENING CHAPTER

3rd Prize for IEEE IA/IE/PELS Jt. Chapter Kerala Section

ZUKER DESIGN CONTEST

3rd prize for project Smart Home Plug done by students Raveena M, Megna Sudeep, Gopika R & Aswathy H of Vimal Jyothi Engineering College





Prof. Muhammad Kasim S Chair



Mr. Anandhu S Kumar Coordinator - Student Branch Chapters



Dr. Bijuna Kunju Vice Chair



Mr. Nebic J Johnson Student Coordinator



Mr. Biju K Secretary



Mr. Akshay Krishnan Webmaster

CHAPTER HIGHLIGHTS

AKIASSC'19



IEEE IA/IE/PELS Jt. Chapter Kerala and IEEE IAS SB Chapter NSSCE organized the first edition of All Kerala Industry Applications Society Student Conclave 2019 (AKIASSC'19) from 8th February to 10th February 2019. The event was held at NSS College of Engineering Palakkad. The core aim of conducting AKIASSC is to foster technological innovation and excellence for the benefit of humanity.

The AKIASSC'19 offered a platform to innovate the minds of the budding engineers through various programs such as informative meetings, technical talks, motivational talks, and interactive sessions with foremost industrial experts. The event provided the students with information such as the benefits of being an IAS student member, volunteer and leadership roles in the chapter activities, avail travel opportunities, IAS Annual meetings, and Awards etc. The student conclave gave students the best opportunity to network with a number of IEEE Senior members & experts in the Industrial field, to be mentored by them in their field of interest and explore internship through personal contacts. The various activities and workshops during the event helped students to improve their technical knowledge, managerial skills as well as personal skills. This provided a professional development source for the students.

Inauguration Ceremony

The inaugural ceremony of All Kerala Industry Applications Society Student Conclave 2019 (AKIASSC'19) commenced with seeking blessing from almighty. Dr Leesha Paul (Student branch counsellor of NSSCE) delivered the IEEE Code of Ethics to the gathering. Prof Muhammed Kasim S (Chair, IA/IE/PELS Jt. Chapter Kerala) welcomed the chief guest and other dignitaries on and off to the dais. He motivated the delegates to actively participate in the workshop to get benefited. The presidential address was delivered by Dr Sudha T (Principal, NSS College of Engineering, Palakkad). She mentioned about the significance Of IEEE and its societies in the current technological world. Dr Sivaji Chakravorthi and other dignitaries inaugurated the conclave by lighting the lamp. Dr Sivaji Chakravorti (Director, NIT Calicut) delivered the inaugural address and he wished all the success to the conclave. Ms Athira M (Chair, IAS SBC NSSCE) briefed about the activities carried out by IAS SBC NSSCE during the last year and introduced its current Execom members to the gathering. Prof Biju K (Secretary, IA/IE/PELS Jt. Chapter Kerala) mentioned about the role and significance of IA/IE/PELS Jt. Chapter



Fig. Inaguration of AKIASSC'19 by Dr Sivaji Chakravorthi

Kerala. The ceremony was further continued with felicitations by Dr Sameer S M (Chair, IEEE Kerala Section), Er Dharesan Unnithan K M (Director, Energy Management Centre Kerala) and Er Srikanth Vasudevan (IAS CMD Membership Chair) and he pointed out the benefits of being an IEEE member. The awards for the best student branch chapters and volunteer were distributed during the ceremony by the chief guest. An appreciation letter from Mr Georges Zissis (IAS President) and Peter Magyar(Director of Chapter Development) was handed over to the IA/IE/PELS Jt. Chapter Kerala and the coordinators of AKIASSC'19 during the ceremony. The ceremony was followed by releasing of IAS newsletter by Dr Sameer S M. The renowned website launch was also done during the occasion. The inaugural ceremony was concluded with a vote of thanks delivered by Dr Vasanthi V (Advisor, IAS SBC NSSCE).

Highlights of Inauguration Ceremony

Newsletter Release

The first annual edition newsletter called 'INDUSTRIA' of the year 2018, an initiative by the chapter to document as well as spread the wonderful activities done under the chapter to all the IEEE members. This contains the reports of all the activities conducted under the IEEE IA/IE/PELS Jt. Chapter Kerala Section along with several other information's was released by Dr Sameer S M (Chair, IEEE Kerala Section) during the inaugural function.



Fig. 2018 Newsletter 'INDUSTRIA' release done by Dr Sameer S M

Website Launch

An initiative by the joint chapter to give all its members an opportunity to know about all the activities conducted under the joint chapter and to freely reach to the executives of the joint chapter gave rise to the idea of a website for the chapter. The Website launch was conducted during the inauguration ceremonies of AKIASSC'19 by Dr Madhu Mangal



Fig. Website Launch by Dr Madhu Mangal

Cerificate of Appreciation

The Industry Applications Society presented the IEEE IA/IE/PELS Jt. Chapter Kerala Section with certificate of appreciation for the wonderful and enthusiastic works done by the joint chapter. The certificate of appreciation was received by Joint Chapter chair Prof Muhammed Kasim S from Dr Sivaji Chakravorthi (Director, NIT Calicut) on the behalf of IAS.

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Fig. Certificate of Appreciation from IAS to IAS Joint Chapter Kerala Section Chair Prof Muhammed Kasim S

The first All Kerala Industry Applications Society Student Conclave was conducted from 8th to 10th February 2019 at NSS College of Engineering, Palakkad. The Industry Applications Society presented the IAS SBC NSSCE with the Certificate of Appreciation for the interest they showed in conducting the event.



Fig. Certificate of Appreciation from IAS to IAS SB NSSCE for hosting AKIASSC'19

Award Winners

IEEE IAS SB Chapter Indian Institute of Space Science and Technology, Trivandrum - Outstanding Student Branch Chapter - Gold Plaque



Fig. Winner of Gold Plaque - SBC IIST Trivandrum

IEEE IAS SB Chapter TKM College of Engineering, Kollam - Outstanding Student Branch Chapter - Silver Plaque



Fig. Winner of Silver Plaque - SBC TKMCE Kollam

IEEE IAS SB Chapter NSS College of Engineering, Palakkad - Outstanding Student Chapter - Bronze Plaque



Fig. Winner of Bronze Plaque - SBC NSSCE Palakkad

The IEEE IA/IE/PELS Jt. Chapter Kerala -Outstanding Student Volunteer Award -Athira M



Fig. Outstanding Student Volunteer Award Winner - Athira M

Technical Talks

1. Energy efficiency for improving profitability

A technical talk on the topic "Energy efficiency and improving profitability" was organised as a part of AKIASSC'19 on 8th February 2019. The talk was delivered by Er Dharesan Unnithan K M (Director, Energy Management Centre Kerala).



Fig. Talk on "Energy efficiency and improving profitability"

2.Demystifying Hardware Product Development

A technical talk on the topic "Demystifying Hardware Product Development" was organised as a part of AKIASSC'19 on 9th February 2019. The talk was delivered by Dr K R Suresh Nair (CTO, SFO Technologies Kochi).



Fig. Talk on "Demystifying Hardware Product Development"

3. Energy Storage for a renewable energy system

A technical talk on the topic "Energy Storage for renewable energy system" was organised as a part of AKIASSC'19



Fig. Talk on "Energy Storage for renewable energy system"

4. Autonomous Cars

A technical talk on the topic "Energy Storage for renewable energy system" was organised as a part of AKIASSC'19 on 10th February 2019. The talk was delivered by Ms Revathi T S (Senior Engineer, Tata Elxsi).



Fig. Talk on "Energy Storage for renewable energy system"

5. Building Management Systems

A technical talk on the topic "Building Management Systems" was organised as a part of AKIASSC'19 on 10th February 2019. Er Shahim Baker (CEO, Baker Associate Groups) delivered a talk about "Building Management Systems".



Fig. Talk on "Building Management Systems"

Non-Technical Talks

1. Studying engineering - Do we need it differently

A non-technical talk on the topic "Studying engineering- Do we need it differently" was organised as a part of AKIASSC'19 on 9th February 2019. The talk was delivered by Dr Sivaji Chakravorti (Director, NIT Calicut).



Fig. Talk on "Studying engineering- Do we need it differently"

2. Innovative solutions: the key to success

A non-technical talk on the topic "Innovative solutions: key to success" was organised as a part of AKIASSC'19 on 9th February 2019. The talk was delivered by Dr Jacob Chandapillai (Director, Fluid Control Research Institute, Palakkad).



Fig. Talk on "Innovative solutions: key to success"

Industrial Visit 1. Fluid Control Research Institute

An industrial visit to Fluid Control Research Institute (FCRI), Kanjikode, west Palakkad was conducted as a part of AKIASSC'19 on 8th February 2019. 50 delegates were accompanied by five volunteers visited the facility.



Fig. Industrial visit to Fluid Control Research Institute (FCRI), Kanjikode, west Palakkad

2. Patspin India Ltd. Palakkad

As a part of All Kerala Industry Applications Society Student Conclave, an Industrial Visit was conducted on 8th February 2019 to Patspin India Ltd. Palakkad. 45 Delegates were accompanied by five volunteers visited Patspin India Ltd.



Fig. Industrial Visit to Patspin India Ltd. Palakkad

Field visit

On the first day of AKIASSC'19 8th Feb 2019, 134 delegates along with 20 volunteers visited Malampuzha garden. Prof Muhammed Kasim S and Dr Leesha Paul accompanied them.



Fig. Field Visit to Malampuzha gardens

Meets

1. IAS SB Chapter Advisers Meet

As a Part of AAs a part of All Kerala Industry Applications Society Student Conclave 2019, Advisor's Meet was conducted on 9th Feb 2019. The Meet was held with the initiative of the Advisors' of IEEE Kerala Section to discuss the reforms that need to be introduced in the IEEE Kerala section and about its' functioning till date.KIASSC'19 the workshop on Lighting Design and New Trends in lighting was conducted on 9th February 2019 by Er Tomy Maly (Asst. Manager Wipro lightings).



Fig. IAS SB Chapter Advisers Meet

2. WiE Empowerment Summit (WES)

As part of AKIASSC'19 (All Kerala Industry Applications Society Student Conclave) organised by IA/IE/PELS Jt. Chapter Kerala in association with IEEE IAS SBC NSSCE, WiE Empowerment Summit (WES) was conducted on 10th February 2019. It was an interactive session by women entrepreneurs lead by Dr K Bijuna (Vice Chair IA/IE/PELS Jt. Chapter Kerala), Mrs Jyothi Ramaswami (Vice Chair of WiE AG Kerala) and Megha Ben (Regional-10 Student Ambassador of IEEE CS).



Fig. WiE Empowerment Summit (WES)

3. IAS SB Chapter Chairs Meet

IEEE IAS SBC Student Chairs gathered on 10th February 2019, offering a chain to get in touch with, to present an annual report of 2018 and to discuss the plans for 2019.



Fig. IAS SB Chapter Chairs Meet

4. IAS YP meet

YP Meet (Young Professional Meet) was held on 10th February 2019 at NSS College of Engineering as part of AKI-ASSC'19. A team of 7 members from YP joined for the meeting. The team was lead by Er Shahim Baker (Secretary IEEE Kerala Section) and Er Thomas Sabu (Secretary Kerala YP). The team also included Er Sudev and Er Jishnu who are also active members of Kerala YP.



Fig. IAS YP meet

Cultural Events

On 9th February 2019, the second day of AKIASSC, A cultural night specially dedicated to the delegates at the open stage of NSS College of Engineering was conducted.



Fig. Cultural night at NSSCE

Valedictory Function

The valedictory function started at 3:00 pm at the college auditorium. Prof K Biju delivered the welcome speech. He welcomed Prof Muhammad Kasim S (Chair, IA/ IE/ PELS Jt. Chapter Kerala), Dr Leesha Paul (Counselor, IEEE SB NSSCE)

and Er Shahim Baker (CEO, Baker Associates Group). All delegates and volunteers gathered in the auditorium. For the first time, IAS SBC Chairs Certificates are distributed. The certificates are awarded by Er Shahim Baker and Prof Muhammad Kasim S. The participation certificates are awarded to delegates by Er Shahim Baker. Six Chairs awarded full fee weaver who brought more than 6 numbers of delegates from their SB Chapters. Abhinav R (Secretary, IEEE IAS SBC NSSCE) delivered the vote of thanks. Feedback session from the delegates got very good comments as expected. The memorable event AKIASSC'19 ended with the valedictory function.



Fig. Valedictory function

AKIASSC'19 in a nutshell

The Industry IEEE IA/IE/PELS Jt. Chapter Kerala Section had organized a 3 day Flagship Event from 8th of February to 10th of February, All Kerala industry Application Society Student Conclave 2019. The first day commenced with the arrival of the participants and then continued by an Industrial visit at PATSPIN and FCRI. The Inaugural Ceremony was conducted in the afternoon after the arrival of the Chief Guest, Dr. Sivaji Chakravorti. There was an Invited Talk and a Field trip to Malampuzha. On the

second day, three parallel Workshops were organized. The IAS Student Branch Chapter Advisors Meet also took place simultaneously. In the evening there were two Invited Talks. The events for the day ended with Cultural Programs and Gale Dinner. On the last day there were two Invited Talks continued by WIE Empowerment Summit, IAS Student Branch Chapters Chairs Meet and Young Professional Meet. The event was a grand success with the active participation of the students and hard work of the volunteers.



Fig. Final day of AKIASSC'19

Distinguished Lecture Program (DLP)

A watchmaker takes his time to build you a masterpiece that will tell you the exact moment when you make those marks in the history of the world. As an initiative to bring the real world of knowledge, rightful thoughts and to help us develop a strong and deep foundation the IEEE IA/IE/PELS Jt. Chapter Kerala Section put forward Prof Vassilios G. Agelidis, Professor at the Centre for Electrical Power and Energy, Department of Electrical Engineering, the Technical University of Denmark as the part of Distinguished Lecture Program to give his time to help you generate a platform to build an empire of our wish. He served as AdCom Member of IEEE PELS and was Technical Chair of the 39th IEEE Power Electronics

Specialists Conference, Rhodes. He is a recipient of the Advanced Research Fellowship from the U.K.'s Engineering and Physical Sciences Research Council. He has been recognized as a Fellow of the IEEE and IET (UK). He showered the students with a lot of knowledge and guidelines for a better world both for students and others. The colleges where the Distinguished Lecture Program was conducted are Vimal Jyothi Engineering College Kannur, Government Engineering College Thrissur, TKM College of Engineering Kollam, College of Engineering Chengannur, Sree Chitra Thirunal College of Engineering Thiruvananthapuram and College of Engineering Thiruvananthapuram. The event delivered a feather to the crown of IEEE IA/IE/PELS Jt. Chapter Kerala Section.



Fig. DLP by Prof Vassilios G. Agelidis

Invited Lecture Program

The IEEE IA/IE/PELS Jt. Chapter Kerala Section as an initiative to create a new mode of educating the students about the current as well as old technologies and incorporating the ideas of students and well known and experienced hands in the field to create a new and dynamic approach to technologies that would create a new wave of technological emotions in the world. As a part of this

idea, the chapter invited Dr Sanjib Kumar Panda, an Associate Professor and Director of the Power and Energy Research Area with the Department of Electrical and Computer Engineering, National University of Singapore (NUS). He has co-authored one book and holds six patents. He has carried out extensive research in various areas of control of electric drives and power electronic converters. He is Associate Editor of "IEEE Transactions on Power Electronics" and "IEEE Journal of Emerging and Selected Topics in Power Electronics". As a beginning to this initiative, he conducted a few talks at different Student branches including Engineering Government Kannur, College of Engineering Karunagappally and Government Engineering College Thrissur. And also interacted with the students and helped them to create a new path to let them know the world better and gave guidelines to generate bracing ideas for the future.



Fig. ILP by Dr Sanjib Kumar Panda

WIE INSIGHT

The IEEE IA/IE/PELS Jt. Chapter Kerala Section celebrated the spirit of womanhood with 'WIE Insight' as a part of international women's day 2019 to showcase our respect to all women who brought phenomenal change in society. The

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Fig. WIE INSIGHT Poster

program was aimed to elevate the unlimited power of women in the context of science and technology. WIE Insight was conducted from 8th March to 16th March 2019 and was lead by Athira M (WIE coordinator IA/IE/PELS Jt. Chapter Kerala Section) and Laya Raj (Travancore hub WIE coordinator IA/IE/PELS Jt. Chapter Kerala Section). About 25 events happened around Kerala as a part of WIE Insight. The event aimed to build up a self-confident girls community. The program mainly focused on the benefits of girl student members in IA, IE and PEL societies. The major activities conducted as a part of WIE Insight was a photographic contest and a two-level guiz competition named 'Quest'. The topic of the photographic competition was 'Women's day celebration and Women empowerment'. The validation of the competition was done by the exco members of the IEEE IA/IE/PELS Jt. Chapter Kerala Section. The photograph from IAS SBC UKFCET was selected as the best among the entries. The prize was an SDLP session organised by joint chapter. The active participation of the SBCs under joint chapter made the event a grant success. The activities under WIE Insight helped the girl students to realise their potential and innate their abilities.



Fig. WIE INSIGHT programme at UKFCET, Kollam

QUEST

The IEEE IA/IE/PELS Jt. Chapter Kerala Section conducted a two-stage guiz competition on technology as part of celebrating the International Women's day. The first round of the competition was conducted at the Student Branches and the winners were selected for the next round of the competition conducted by the IEEE IA/IE/PELS Jt. Chapter Kerala Section. In order to make the students realise the immense contributions done and are being done by the women for the field of technology was the main reason for conducting such a great event. Apart from the guiz competition, the student branches were requested to conduct a small talk on the contributions by the women on the field of technology and collect the ideas of students to bring up a strong and powerful women generation to lead the world alongside the men.



Fig. Quest at RIT

5 Day Internship on Solar PV Power Plant at TKMCE

The 5 days internship on 'Solar PV Power Plant' was conducted by IEEE IA/IE/PELS It. Chapter Kerala, in association with IEEE IAS SBC TKMCE, Ever Green Energy Technologies and IGATech Industries, Kochi. The programme creates interconnection between the college and the industry. The first 3 days of internship programme was conducted at TKM College of Engineering, Kollam and the remaining days at Ever Green Energy Technologies, Kochi.

Day 1 (Inauguration)

The program began auspiciously at 9:30am with a silent prayer lasting a minute and was followed by a brief talk on the IEEE Code of Ethics by Ms. Nandini J.Nair, Vice Chair IEEE IAS SBC TKMCE. The welcome speech was given by Dr. Bijuna Kunju K, Vice Chair, IEEE IA/IE/-PELS Jt. Chapter Kerala, followed by presidential address by Prof. Imthias Ahmed T. P and Mr. C.M. Varuahese, director of IGATech Kochi presented the inaugural address. Prof. Sunita Beevi and Prof. Reshna Ayoob received felicitation. Mr.Athul M.V. Chair Industry Institute Interaction of the IEEE IA/IE/ PELS Jt. Chapter Kerala also accepted felicitation. Mr.Hari Prasad, Hub Student Representative of Travancore Hub gave a talk on the PELS membership drive and the morning session ended with a vote of thanks by Ms. Laya Raj, WIE Coordinator of Travancore Hub.



Fig. Inaugural Session of 5 Day Internship Programme

Theory session

After a tea break, the sesion began in full swing starting with theory session on basics of solar system by Mr. C M Varughese.

Practical session

The delegates were sorted into 5 different groups, each group were led by a captain.

After lunch break, a practical session on designing a power plant for your home was conducted in the DC Machines Lab of TKMCE. The delegates were guided by Mr. C M Varughese. After a short break, a theoretical class on the classification of PV Power plant was conducted and block-wise description was given.

DAY 2

The morning session was on the design of commercial Solar PV power plant by Mr. K. Ramachandran. The session was very interactive and the delegates were actively involved in question-answer sessions.

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Mr. Sudev.D conducted a class on types and selection of PVs and inverter with the **PowerPoint** of presentation. Afternoon session was conducted by Mr. C M Varughese on the familiarization and identification of parts of a solar plant and the evening session was on solar battery types and sizing. The last two sessions were held in the Electrical Machines Labs so as to provide practical insight into the workings of Solar PV Power Plant. The delegates were made to understand the parts and working of a solar plant using the experimental setup arranged in the lab.



Fig. Session on Familiarization of Solar Plant

DAY3

The morning session on the civil construction, structure and tracking of Solar PV power plant was taken by Mr. Sudev D. A brief introduction to energy auditing was also given to the delegates. The first step in identifying opportunities is to reduce energy expense. It was followed by forenoon session on safety at sight and personal protection. Afternoon session was conducted by Mr. C. M. Varughese on the simulation of Solar PV Software PV Syst which enables quick

estimation of production at project planning stage, detailed study, sizing, hourly estimation and report generation. The evening session was on solar inverters—types and selection by Mr. Sudev.





DAY 4

The day 4 started off with phase one of Industrial visit to Cochin international airport Limited (CIAL), which is proudly known for being the first completely solar powered airport in the world. The delegates were given a treat of the panaromic view of the 14.4 MW ground mounted, grid connected photovoltaic power station of CIAL and details of the working was also given. The daily data analysis of the total output energy, weather forecasting data, plant performance data and many more were monitored

using SCADA. After the industrial visit to CIAL, an industrial visit was organized to IGATECH industries, one of the famous power electronics industries of Kerala. The delegates were given practical exposure to the making of power electronics devices and marked a great response. The day proved to be the most exciting for the delegates.

DAY 5

The day 5 started with the mesmerizing session by G. Krishnakumar on the affairs Energy Auditing, Site study and optimization technique. The session was well handled with a descriptive PowerPoint presentation which covered the stages and levels of energy auditing, site and optimization. A session was led by Ajith, one of the technical faculities of Kochi Metro. He explained about the importance of Solar Power in the running of metros in the world. He elaborated his session with a practical session on the installation of Solar Power Plant. The session ended with the positive and satisfactory feedbacks from the delegates.

5 Day Internship Program, Kochi

The internship programme was of 5 days, conducted on a topic "Solar PV Power Plant" from 24 th July to 28 th July, 2019 at Ever Green Energy Technologies, Kochi. Theoretical sessions, Practical sessions, Simulation sessions, Designing sessions, Energy Auditing and other sessions were conducted along with Industrial Visits to Cochin International Airport Limited,

Kochi and IGA Tech Industries, Kochi. It was organised by IEEE IA/IE/PELS Jt. Chapter Kerala in association with IGA Tech Industries and Ever Green Energy Technologies, Kochi. The inauguration began auspiciously at 4.30 pm with a silent prayer lasting for a minute. Itwas followed by reading out IEEE Code of Ethics by Mr. Sarath Chandran (Electronics Communication Coordinator, IEEE IA/IE/PELS Jt. Chapter Kerala). The welcome speech was delivered by Er. C M Varghese(Chair- Industry Relations Director, IEEE IA/IE/PELS Jt. Chapter Kerala). He had mentioned about the future of solar energy and the course details. The inauguration was done by Dr. Suresh Nair(Immediate Past Chair, IEEE Kerala Section), followed by lighting up the lamp. He explained about the importance of IEEE in the society and internship programmes.



FIRST DAY

The registration started at 9.30am and lasted for 1 hour. The event was started with a session by Er. C M Varghese (CEO, EGET) on the basics of solar system and PV Power Plant as the morning session with a tea break in between. After 1.15pm, lunch was given to delegates. The

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afternoon session was led by C M Varughese wherein the delegates were familiarised with different instruments used in a Solar PV Power Plant. The delegates were taught to measure the specified quantities and the calculations based on it.

SECOND DAY

The day started with a session led by Dr. Nikhil P G(Former Scientist, National Institute of Solar Energy). He explained various aspects used in Solar PV Power Plant and did some group activities. The delegates were divided into 5 groups having 5 people as strength. They were given tasks to study a given case study happened once in the world and were asked to make a chat presentation on it. Groups were restructured in such a way that each person in each group understood the problem and solution in each case. They were taught to calculate the profit they would gain after installing plant at the house. Commercial designing were also done. After designing, a theoretical session on Types and Selection of PVs and Inverter was led by Sudev D. After leaving for lunch, practical session on types and Selection of PVs and Inverter was done. The day ended with simulation session, conducted using PVsyst software.

THIRD DAY

The day 3 started with the familiarisation of parts of Solar PV Power Plant by Sudev D. The delegates were divided into several groups for the familiarisation sessions. A session on safety and precaution measures to be undertaken at site while work

ing in a Solar PV Power Plant personally as well as on dealing with the equipments were taken by Annie James. The afternoon session was handled by C M Varughese wherein the delegates were asked to identify the familiarised parts of a Solar PV Power Plant and arrange it in a required manner.

FOURTH DAY

The day 4 started with the first phase of the Industrial Visit to Cochin International Airport Limited, the first fully solar powered airport in the world, wherein all the delegates were overwhelmed with a panoramic view of a 14.4 MW ground mounted, grid connected photovoltaic power station. An overview of the details of the project were given. The daily data estimations with the help of SCADA monitoring were clearly explained along with the total output energy, weather forecasting data, plant performance data and many more.



The day 5 started with the session on Energy Auditing, Site study and optimisation technique by G. Krishnakumar. The different aspects involved in the various levels of energy auditing were well ex

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plained with PowerPoint presentations. The stages included in energy auditing of a site and its optimization techniques were also described in a well clearly manner. The day 5 got soon ended up with lunch since a majority of the delegates have to travel a long distance to reach their places.



Visit by Dr. -Ing Peter Magyar

Dr. -Ing Peter Magyar (Chapter Development) visited Kerala for being a delegate for All Kerala Power & Energy Society Student Colloquium'19 (AKPESSC'19), organized by IEEE PES Kerala Chapter and hosted at College of Engineering Karunagapally on 23-25th August 2019. On the final day of the event, he led a session on 'Importance of IAS membership', briefing the resources in IAS, its interaction with IAS and the membership benefits of being an IAS member. The sessions encouraged the delegates for being an IAS member and thereby enjoy the resources of IAS. He motivated the aspirants through his IEEE journey. He made an impulse to the students and professionals to the vast opportunity that industrial applications society provides.



Fig. Dr. Ing Peter Magyar at College of Engineering Karunagappally

IEEE PELS Day Celebrations

IA/IE/PELS Jt.chapter Kerala organized an industrial visit to KELTRON, Karakulam, Trivandrum, Kerala, a leading power electronics industry on 20th June 2019 as part of PELS day celebrations. The student members from various engineering colleges in Kerala participated in the event. A cake cutting celebration was also arranged along with the industrial visit. The team visited various sections of the KELTRON. The engineers in the plant explained to the student members about the manufacturing techniques of the various power electronic products. The students learned in detail about the manufacturing of various equipments under the power electronics group of KELTRON. 28 PELS members participated in the visit.



Two day Proficiency Program on " ELECTRIC AND HYBRID VEHICLE ENGINEERING"

IEEE IAS SBC Saintgits college of Engineering in association with IEEE IA/IE/-PELS Jt. Chapter Kerala and Department of Electrical and Electronics Engineering conducted 2 day Proficiency Programme on " ELECTRIC AND HYBRID VEHICLE ENGINEERING" on 30 and 31 of August 2019. The programme was sponsored by IEEE Industry Applications Society. Mr. P Prasanthkumar from Haritha TechLogix Pvt.Ltd , Bengaluru handled the training sessions. The main objective of the workshop was to give a brief overview about the electric and hybrid vehicles design and currently used technologies in the field. Modeling and simulation studies of Electric & Hybrid vehicle were performed in MATLAB/ SIMULINK environment. Case studies on the state-of-the-art technologies used and the improvements made in the design of both electric and hybrid vehicles were studied by taking examples from Chevrolet, Tesla, Toyota etc. The training programme was attended by 60 participants which includes participation from 7 external colleges in Kerala.



One day Workshop on "Health conscious Fast Charging Strategies And Battery Management Systems For Electrified Autonomous Transportation"

IEEE IA/IE/PELS Jt. Chapter Kerala and IEEE IAS SBC TKMCE jointly organized a talk on the topic "Health-conscious Fast Charging Strategies and Battery Management Systems for Electrified Autonomous Transportation" at TKM College of Engineering, Kollam on 5th of August 2019. It had been presented by Prof. Sheldon S. Williamson associated with the Ontario Tech University, Canada who holds the prestigious NSERC Canada Research Chair position in electric energy storage systems for transportation electrification. About 59 undergraduate students from various colleges took part in the workshop. The technical talk was split into 4 sessions as pre-planned by Prof. Sheldon.

Session 1: Smart Power Electronics Based Active Battery Energy Management Systems for Electric Transportation.

In this session, the role of on-board cell voltage balancing (with temperature rise considerations) of Li-ion batteries was been highlighted. The design and implementation of a novel, reduced-parts DC/DC converter for battery cell-voltage-equalization were discussed.

Session 2: Novel Power Converters for DC Fast Charging

The possibility of employing a 3-phase, 3-switch (TPTS) converter as a single-stage charger for DC fast charging was introduced. A new modulation technique for controlling a TPTS converter was introduced further. Experimental verification and test results of the designed converter/charger prototype were presented.

Session 3: Integrated PV/Smart-grid Based Charging Applications.

This session introduced both home and public charging interface designs from a power electronic intensive solution perspective. Several grid-connected as well as PV/grid interface topologies for EV charging were presented. The modelling, sizing, design, and implementation of a novel high-efficiency, single-stage PV/grid/EV charging infrastructure was also presented.

Session 4: High-Efficiency, Wireless Fast Charging Concepts and Methodologies

The concluding part of the talk focussed on introducing advanced power electronics solutions for rapid charging using wireless power transfer. Both inductive power transfer (IPT) and capacitive power transfer (CPT) were introduced. Critical issues such as IPT coil design, CPT dielectric medium/transfer plate designs, and converter topologies were discussed.



WORKSHOP : DESIGN OF POWER ELECTRONICS PRODUCTS

IEEE EA Kerala Section, IEEE LMAG Kerala Section, IEEE IA/IE/PELS Jt. chapter Kerala and IEEE IAS SB chapter CET jointly organized and conducted a one day Workshop on Design of Power Electronics Products for engineering students on 21st September 2019, Saturday, at College of Engineering Trivandrum. The session was handled by Dr.Madhu Mangal, vice chair, LMAG Kerala Section. He has over 40 years of experience in R&D and Engineering in the field of Power Electronics, as Head of R&D of Industry and as Head of Government R&D Institutions. Presently he is Chief Consultant in Power Electronics for Advanced Rail Controls Bangalore. He is a Life Senior Member, IEEE and Fellow, Institution of Engineers (India). The workshop started with an introduction to power electronics and power electronics products. A lecture was given about what is power electronics, power electronics products and various power converters. The second part of the session was about UPS systems. It started off with an introduction to UPS systems, followed by Why UPS systems and its evolution. The third quarter of the workshop focused on design of UPS system. Here, UPS system specification and topics related to design were covered. The topics covered included static switch devices, output filters, inverter power devices etc.



Fig: Delegates after the workshop

The workshop session came to an end by students solving a given task. An exercise on design of power electronics products was given to the participants, which was to be done by the delegates. The ideas and solutions were discussed in the end. A great response was obtained from the participants. Many explained how helpful the session was. The participants who were final year students found the workshop very useful to do their main project. The participants said they got a new insight about power electronics. In short, students gained a better knowledge about power electronics and its prod-



Fig: Madhu Mangal during his workshop

TRIAC - Technical Revamping Initiative Aspired Concourse

TRIAC is a technical event organized by IEEE IA/IE/PELS Jt.Chapter Kerala, IEEE PES Kerala Chapter and IEEE ComSoc Kerala Chapter at FISAT. The event was conducted on 26th and 27th October 2019. There were 200+ participants in total. The workshops cum hackathons were VitantuSanjara, Saurorja, Prathijwal and Yanthra. The chief guest of the event was Dr.Usha Titus IAS, Principal Secretary, Higher Education Department. Workshops were conducted on the first day of the event and hackathons were conducted on the second day which also helped to sharpen their skills.

Apart from workshops there was also a panel discussion by IEEE Young Professionals of IEEE PES. The panel included Er.Anandhu S Kumar (SB Chapter Coordinator, IEEE IA/IE/PELS Jt.Chapter Kerala & Student Activity Coordinator, IEEE PES Kerala Chapter), Er. Anish Mohan (IEEE PES YP Coordinator), Er.Shyam Pradeep (IEEE PES YP) and Er. Akash P Nambiar (Advisory Committee, IEEE SB FISAT). There were stalls arranged by IAS Student Branch Chapters of College of Engineering Karunagappally, College of Engineering Chengannur, Rajiv Gandhi Institute of Technology, Kottayam and Jawaharlal Nehru College of Engineering Palakkad. The event was a great success and the participants many gave positive feed-backs. They were able to learn and showcase their technical skills and the event ended up with flying colors.

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Yanthra was conducted as part of TRIAC handled by Er. Anish Mohan and Ms.Sajna Mohammed. The workshop covered portions of basic robotics using Arduino. The session included familiarization of components, assembling of parts and programming. About 51 participants attended the workshop.

Day 1: The workshop session began at 9 am and the first segment was a brief introduction to robotics and basic components. Arduino was the main discussion point. Functions, parts, circuits and programming using Arduino were also discussed. The second and the third segment had discussions on circuits and functions using these components and the final segment was the combination, logic circuits and its functions.

Day 2: The hackathon, which began at 9 am, was the most interesting part for all delegates. They used their ideas, skills and knowledge from the session with the help of the instructor and created their own robots. Overall the workshop was useful and enjoyable for all delegates.. Teams showcased outstanding performance was awarded with a cash prize.



Fig: TRIAC Inaugration

PRATHIJWAL, a workshop based on Illumination technology was handled by Mr.Hari Prasad and Mr.Akshay Krishnan. The venue for the workshop was at Central Computing Facility Lab. A count of 75 delegates attended the workshop

Day 1: The workshop started at 9am with the introduction to properties of light. They introduced about the primary properties like intensity, wavelength, frequency, polarization, etc. Later on they introduced about unit of luminescence (lux), its values for different applications, calculation of lux value so and so. The refreshments were provided in between the workshop. Next they introduced the software called DIALux, which is the world's teading software for planning, calculation and visualization of indoor and outdoor lighting. The points they presented were very informative.

Day 2: The hackathon session started at 8:45am. In hackathon, the delegates were able to calculate the lux value of a reading room using the DIALux software. Both the workshop and hackathon were very informative.



Fig: PRATHIJWAL

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Fig: SAURORJA

SAURORJA, workshop based on solar panel system was run by Mr.Abhinav Rajeev and Ms.Athira M. The Workshop was conducted at the Electrical Lab. 50 delegates attended this workshop.

Day 1: The workshop was started with some introduction on basic electrical appliances and the delegates were able to understand and elaborate their ideas. Later on they were introduced to the basic components required to set up a solar panel, its working, the various criteria for selecting these components, its market price and so on. It gave out a clear cut idea about how to design a Solar Photovoltaic System based on the consumer requirements. Delegates were able to do some experiments on solar panel. The first day workshop session ended up with an experiment to check the efficiency of a solar panel under shady conditions.

DAY 2: The session started up with new topic - PVsyst V6.84 (software). There was a 5 hour hackathon based on the workshop conducted on day 1. The delegates found the session informative. Overall the workshop was understanding and applicable in practical life and enjoyable for all delegates..

VITANTUSANJARA, a two day workshop-cum-hackathon on Wireless Communication organized as a part of Technical Revamping Initiative Aspired Concourse -TRIAC at Federal Institute of Science & Technology on 26th & 27th October 2019.

The session was handled by Dr.Gandhiraj R, Professor, Amrita College of Engineering, Coimbatore. 26 students from various colleges across the state participated actively.

Day 1: The workshop started with giving introduction to few theories like time domain, frequency domain & Fourier transfer. This was followed by familiarization of GNU radio software. How to form a signal wave form was edified. This was followed by instructing how to filter a signal & catch different audio frequencies. The session concluded by discussing how filter a given input audio signal.

Day 2: The second day consisted of a hackathon to test the workshop knowledge gained by the delegates. The task given to them were to take a song of their choice & separate the audio file & karaoke.



Fig : Vitantusanjara

Panel Discussion:

A panel discussion was held by IEEE PES Young Professionals during TRIAC'19. The panel was included by Er.Anandhu S Kumar (SB Chapter Coordinator, IEEE IA/IE/PELS Jt.Chapter Kerala & Student Activity Coordinator, IEEE PES Kerala Chapter), Er. Anish Mohan (IEEE PES YP Coordinator), Er.Shyam Pradeep (IEEE PES YP) and Er. Akash P Nambiar (Advisory Committee, IEEE SB FISAT). They discussed about their YP experience and Student-YP Transitions.



Fig: Delegates & Volunteers of TRIAC

AKIASSC '20 Steering Committee meeting

Steering committee meeting of AKI-ASSC'20 was held at UKF College of Engineering and Technology at 18 December 2019. The agenda of the meeting was the verification of proposed schedule for the event. There was also a venue visit by the Joint Chapter Execom members where the event is proposed to be conducted. The representatives of the chapter were satisfied with the proposed venues.



Solar Water Heater Installation at Navajeevan Abhaya Kendram

IEEE IA/IE/PELS Jt. Chapter Kerala has installed a Solar Water Heater at Navajeevan Abhaya Kendram, Nedumpana, Kundra, Kollam. Navajeevan Abhaya Kendram is one of the homes in Kerala, built for the no-relative ones. The Kendram was having a difficulty of ease flow of hot water for its inmates. This difficulty was mainly caused by instant electricity and fuel shortage. The humanitarian project helped the inmates of the 'Kendram' to ease the difficulty of having hot water. The quantity of Solar Water Heater is upto 250 litres. The installation was completed on 24 December 2019. The heater shows the quantity of hot water, amount of water can be filled more, indication of heating and solar energy storage.



STUDENT BRANCH CHAPTER EVENTS

Executive Committee Training

The ExCo training was conducted on 1st January 2019 by the IEEE IAS SB Chapter UKFCET Paripally. Fifteen volunteers of UKFCET participated in this training program. Laya Raj, chair of IAS SBC UKFCET gave a brief introduction about Anandhu S Kumar student activity coordinator of IEEE IA/IE/PELS Jt. Chapter Kerala Section as well as the chief quest of the training program. Mr Athul M.V the advisor of IAS SBC UKFCET also shared some words to the students. After the inaugural ceremony, the training program was conducted. Mr Anandhu S Kumar was so helpful to the students and tried his very best to enrich the students with their responsibilities with some great examples. The session ended with a feedback session from students. Akhil T P, secretary of IAS SBC UKFCET delivered the vote of thanks and Mr Athul M V presented Mr Anandhu S Kumar with a memento as a small token of love.



Fig. Executive Committee Training by Anandhu S Kumar

Talk on 'Understanding AC Power System Network and Its Safety Aspects'

IEEE IAS Student Branch Chapter IIST organized a technical talk on the topic 'Understanding AC Power System Network and Its Safety Aspects' on 23rd January 2019. Mr Richu Sebastian, PhD research scholar, IIST handled the session. The talk started with an introduction to the general understanding of the AC power generation, transmission and distribution system. A brief demo of the connections of RCCB's and MCB's was also given. The different causes of electrocution and the safety measures to be taken to avoid such dangerous conditions were discussed in detail. The session mainly targeted at the graduate and undergraduate students working in the power lab to give awareness on the safety measures while working on high power systems. The session was followed by an interactive session where students discussed their thoughts and doubts regarding the topic. A total of 20 students attended the program.



Fig. Understanding AC Power System Network and Its Safety Aspects

Membership Drive

The IEEE IAS SB Chapter UKFCET organised a membership drive on 30th January 2019 in order to increase the student member count in the Student Branch. Mr Athul M V, IAS SB Chapter Advisor delivered a talk to students on the relevance of being part of an international organisation and how it is going to help in their career growth. He also pointed, how as a team the SB worked at the time of necessities including disaster relief activities and asked students to be part of such big movements to know the joy of volunteering. Apart from 7 members from the beginning, 14 new members joined SB. Also, 8 more students have shown interest, who will be joining in August 2019. Two professional members have shown interest to join by August 2019. The membership drive was successful. The volunteers and the executive committee did magnificent work.



Fig. Membership Drive at UKFCET

PCB Design and Fabrication

On 1st February 2019, the IEEE IAS SB Chapter GEC Thrissur conducted a workshop on 'PCB Designing and Fabrication'. This 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.



Fig. PCB Design and Fabrication at GEC Thrissur

Inauguration of IEEE PELS SB Chapter at MCE Chirayinkeezhu

The inauguration of the IEEE Power Electronics Society Student Branch Chapter Musaliar College of Engineering Chirayinkeezhu was jointly organized by the IEEE IA/IE/PELS Jt. Chapter Kerala Section and IEEE IAS SB Chapter Musaliar College of Engineering, Chirayinkeezhu on 4th February 2019. Dr C Sam, Principal of the College presided over the meeting. The IEEE PELS SB Chapter was inaugurated by Dr Madhu Mangal (Former Vice President, EMERSON Network Power India, Thane). Winners of IEEE Quiz 2018 were awardedby the guest. After the inaugural

section, Dr Madhu Mangal gave a talk on the history of batteries, battery for autonomous cars, etc.



Fig. Inauguration of IEEE PELS SB Chapter at Musaliar College of Engineering, Chirayinkeezhu

Workshop On Circuit Simulation Using Proteus

The IEEE PELS SB Chapter GEC Thrissur conducted a workshop on 5th February 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. It was a one day workshop. Dr Jaison Mathew was the resource person. Both BTech and MTech Students participated in the workshop. 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 35 students participated.



Fig. Workshop On Circuit Simulation Using Proteus

General meeting and event plan

On 6th February 2019, the IEEE IAS SB Chapter UKFCET conducted the first IAS general meeting of the year 2019. The main agenda of the meeting was to form the new executive committee for the year 2019 and introduction of the new ExCo to the new members who had recently joined IAS after membership drive. In the meeting, voting was conducted for the new ExCo members. The ExCo consisted of mostly the members of the previous committee as they had only a couple of months to work since the official inauguration was on 10th August 2018. Mr Athul M V advisor of IAS SB Chapter UKFCET talked about various competition going to happen at the international level in which the member could apply and discussed future events which are to be conducted at the college. The event made the students get to know the ExCo much closer. It made the students to have a one on one talks and get to know the benefits of being part of the prestigious IEEE. The session also made the students to clear their doubts, event had a total participation of more than 50 members.



Fig. General meeting and event plan at UKFCET

Student Branch reactivation Programs

Two membership Development programs were held by IEEE IA/IE/PELS Jt. Chapter Kerala Section Chair, Prof Muhammed Kasim on 12th and 19th February 2019 at Musaliar College of Engineering and Technology, Pathanamthita to reactivate the IEEE Student Branch. Member benefits, Student Branch operation and Officer reporting were highlighted during the presentation. In March, new students joined IEEE and now MCET IEEE SB became an active Student Branch.



Fig. Student Branch reactivation Program at MCET conducted on 19th February 2019

Resume Workshop

The IEEE IAS SB Chapter UKFCET organised a Resume workshop 'Know Yourself' for final year students at the college campus on 14th February 2019. The seats were limited to 30 and the event held with an attendance of 34 students. The workshop was organised to make the upcoming placement drives fruitful. Students were given guidelines and tips on how to prepare for an interview and create a successful CV. The CV's were verified by professionals. A one on one tips and guidelines were provided to each students based on their CV. Each CV was scrutinized based on professional level. The students much appreciated the initiative. The Program was supported by the Department of Electrical Engineering and felicitated by Mrs Praveena Krishna L, Head of Department. The workshop was very much interactive and received positive feedbacks. The event was successful with the responses from students and the SBC is planning to conduct a second level workshop for 3rd year BTech students and MTech students of the whole campus. The coordination team got high appreciation from the placement cell of the college.



Fig. Resume Workshop

Workshop on Remote Controlled Robotic Car

On 20th and 21st of February 2019, the IEEE IAS SB Chapter CEK conducted a workshop on 'How to make a remote-controlled robotic car' from the basic to the high-end programming knowledge to create sophisticated robotic cars. The workshop was mainly aiming to induce knowledge in delegates about Bluetooth Controllers, Arduino Programming, Interfacing of Arduino with Bluetooth controller, stepper motor, motor drivers. The next day delegates added modules that made advancements to their own robotic car. The workshop made students to have deeper knowledge on the topic. Several ideas were fire extinguisher robot, vacuum cleaning robot etc. The workshop was supervised by Akshay Krishnan, Chair of IEEE SBC, Hari Prasad, PES Chapter Chair and Jayaraj N R, IAS Chapter Chair. The event had the participation of over 35 members



Fig. Workshop on Remote Controlled Robotic Car

Spectrum Talk on 'Future Promising Noise Cancelling Technology'

The IEEE IAS SB Chapter NSSCE Palakkad conducted a talk on 'Future Promising Noise Cancelling Technology' on 21st February 2019. The session was conducted with the aim that students come across the possibilities of the IEEE Spectrum magazine and they get acquainted with the upcoming technologies around them. In this modern world, Noise cancellation is an indispensable technology for mankind. Scientists have been working tirelessly to bring about innovations to this technology. So making the students realise the importance and need to understand the new as well as exciting technologies and bring out the interest of the students into all these fields was a part of the intention in conducting this talk. The event was much appreciated by the students and faculty, event had a total participation of over 35 students.



Fig. Talk on Future Promising Noise Cancelling Technology

Membership Development Session 2019

The MD session for the year 2019 of Musaliar College of Engineering and Technology, Pathanamthitta was held for first year students of ECE, CSE & EEE and Mechanical departments on 22nd February 2019. The guest speaker was Mr Abey Easow Joseph (Chair, Membership Development Team, IEEE Kerala Section). The students were given a brief introduction to and about IEEE. The need for a student branch and the corresponding activities were reviewed.



Fig. Membership Development Session by Abey Easow Joseph

Spectrum Talk on Quantum Computing

On 26th February 2019, the IEEE IAS SB Chapter NSSCE Palakkad decided to conduct a talk on 'Quantum Computing' as most of the members were not aware of the theory of quantum computing. Solomon Staby, an IEEE SB NSSCE member showed up to conduct a spectrum talk on the subject. The primary

aim of the talk was to provide basic knowledge about what is a quantum computer? and how it works? About 53 members, including IEEE members and non-IEEE members, were present. There are still limitations for problem-solving with a normal computer. At first, Solomon presented two relevant problems that cannot be solved by a normal computer. This is where a quantum computer plays its role. The main advantage of this technology is speed. Quantum computer can solve problems which a normal computer cannot even think about. He explained what a 'Qbit' is and how it works with plenty of examples.



Fig. Talk on Quantum Computing

Distinguished Lecture Program at VJEC

The IEEE IAS SB Chapter VJEC was part of the DLP organized by the IEEE IA/IE/PELS Jt. Chapter Kerala Section. The DLP was conducted on 26th February 2019. The lecture program made the students gain knowledge of new developments in the world. And have their doubts get totally cleared by Prof Vassilios G Agelidis. He taught about the importance of solar power plant and how to implement the solar plant. According to the professor the

three main points or three important factors we need to follow in our life is 'Networking', 'Ask questions', and 'never give up'. So throughout the lecture, Prof Vassilios motivated students to ask questions. The session was truly good and helpful for the students. The total of 50 members participated in the event.



Fig. Distinguished Lecture Program at VJEC

Distinguished Lecture Program at GEC Thrissur

On 27th February 2019, The IEEE IAS and PELS SB Chapter took part in the Distinguished Lecture Program on "Large Scale Solar PV Electricity Grid Integration: Technologies, Issues, Market Integration and Impact" by Prof. Vassilios. The event was a success owing to wide participation from the students and professors. In his lecture, Prof Agelidis gave an outline of the developments in the field of solar energy, its benefits, challenges and various issues associated with its integration to the existing grid and market. He also pointed out that the future of the automotive industry is in electrical vehicles and discussed issues when plugging more and more electrical vehicles to the grid. The number of participants was a total of 120.



Fig. Distinguished Lecture Program at GEC Thrissur

Distinguished Lecture Program at TKMCE

The IEEE IAS SB Chapter TKMCE in association with IEEE IA/IE/PELS Jt. Chapter Kerala Section organized the Distinguished Lecture Program (DLP) on the topic 'Large Scale Solar PV Electricity Grid Integration: Technologies, Issues, Market integration and Impact' on 28th February 2019. The lecture was given by Prof Vassilios G Agelidis. The lecture focused on diverse topics starting from world energy demand, energy resources, photovoltaic cells, its application, solar cells, and the list goes on. It was a great opportunity for student professionals to interact with such a great expert. The event had total participation of over 30 members.



Fig. Distinguished Lecture Program at TKMCE

IAS Chapter Inauguration and DLP

On 28th February 2019, the IEEE IAS SB Chapter CEC conducted the IAS Chapter Inauguration and took part in the DLP organized by the IEEE IA/IE/PELS Jt. Chapter Kerala Section. The session was based on the topic "Large-Scale Solar PV Electricity Grid Integration: Technologies, Issues, Market Integration and Impact" by Prof Vassilios G Agelidis, Professor at the Centre for Electrical Power and Energy, Department of Electrical Engineering, Technical University of Denmark. In the session, Prof Vassilios G Agelidis mentioned about the importance of solar energy in the present scenario and mentioned the various ways by which we can make use of this free energy. He highlighted the role of 'Solar Inverters' in which solar energy is converted to electrical energy by photovoltaic cells. The session winded up with an interactive session where students clarified their doubts with the speaker. Around 200 delegates from different Student Branches attended the session.



Fig. IAS Chapter Inauguration and DLP at CEC

National Science Day Quiz

The IEEE IAS SB Chapter UKFCET in association with the Department of Electrical & Electronics Engineering organised a quiz competition for the students on 28th February 2019. National Science Day is celebrated in India on 28th February each year to mark the discovery of the Raman effect by Indian physicist Sir C V Raman on 28 February 1928. For his discovery, Sir C V Raman was awarded the Nobel Prize in Physics in 1930. As the first part of the competition, the students were shortlisted to 24 students after the screening test. They were made into 12 teams and was made to participate in the prelims round on 28th February 2019. The 4 teams who scored top in the preliminary round were selected to the finals which happened on 1st March 2019.



Fig. National Science Day Quiz

19. IAS Chapter Inauguration and DLP at SCT

The IEEE SB SCT launched its new chapter Industrial Applications Society (IAS) on 1st March 2019, which was followed by the Distinguished Lecture Program (DLP) by Prof Vassilios G Agelidis. Professor elaborated why renewable energy sources are not stable and the need to have reliable ways. He emphasized on developing more than 100% renewable energy. He also explained the effect of inertia on the dynamic performance of wind turbines and the need for stabilising the grid and uses of off-grid energy harnessing methods. He addressed every related challenge and classified uncertainty as to the major challenge in renewable energy sources. As a solution, he suggested using electric vehicles (EVs) as mobile power storage could eliminate the need to build costly stationary grid storage for energy from renewable sources. He also suggested the use of synergies by integrating different energy sources. The DLP concluded with an interactive session with students and professionals. The event was very much appreciated by both the students and faculty. The DLP was so illuminating that the participants were keen and glued to their seats. A total of 122 people participated in the program.



Fig. IAS Chapter Inauguration and DLP at SCT

IAS Chapter Inauguration and DLP at CET

On 2nd March 2019, the IEEE IAS SB Chapter CET was inaugurated by Chief guest Prof Vassilios G Agelidis, Fellow IEEE and Professor at University of Denmark, Prof Biju K, Secretary IEEE IAS Kerala Section, in the presence of Dr V R Jisha, former Vice Chair, IEEE Robotics and Automation Society, Kerala Section and Dr Sreejaya, Staff Advisor, Power and Energy Society, student branch CET. In the session, he talked about power electronics, energy resources and shared his areas of interest. He told the gathering about the energy efficient technologies that are being used in Denmark. The lecture was followed by an interactive session with Prof Vassilios G Agelidis, wherein students could share their ideas with him as well as ask their queries. A total of 60 students participated in the program.



Fig. IAS Chapter Inauguration and DLP at CET

Essay Writing Competition at Musaliar College of Engineering Chirayinkeezhu The IEEE IAS SB Chapter Musaliar College of Engineering, Chirayinkeezhu conducted an essay writing competition for students and IEEE members as part of women's week based on the subject 'Empowerment of women' on 5th March 2019. IEEE staff members Mrs Asmin M K and Ms Shamna A R were the judges of the competition. About 35 students participated in the competition including 10 IEEE members. The winner was Surabhi S of S8 EEE.



Fig. Winner of Essay Writing Competition at Musaliar College of Engineering Chiray-inkeezhu

Poster Designing

As part of the women's day celebrations, the IEEE IAS SB Chapter UKFCET organised a Poster Design competition at campus level on 6th March 2019. Out of the 17 entries, the best five posters were shortlisted and Mr Kailas Krishna of the first-year Electrical Engineering bagged the First prize. The theme for the contest was 'Women in Engineering'. The winner was presented with prize and certificate by UKF College Deputy Director, Dr R Sujatha during the Hub level Women's day celebrations, Virago 2.0 hosted on 9th March 2019. The prize-winning

poster was displayed at women's day celebration and got good appreciation and feedback.



Fig. Poster Design competition winner

Poster Designing Competition at Musaliar College of Engineering Chirayinkeezhu

The IEEE IAS SB Chapter Musaliar College of Engineering, Chirayinkeezhu conducted poster designing competition on the subject 'Women in India' as part of women's week on 6th March 2019. Faculties of the college were assigned the duty of judging the competition. A total of 40 students participated in the competition including 15 IEEE members. Remya of S6 EEE was the winner of the design competition.



Fig. Winner of Poster Designing Competition at Musaliar College of Engineering Chirayinkeezhu

Workshop on Photoshop

On 6th March 2019, the IEEE IAS SB Chapter NSSCE Palakkad conducted the first workshop in the year 2019 after the ExCo Handing over Ceremony was the workshop on Adobe Photoshop. The session was conducted with the aim that students come across the exposure of expressing their creative ideas by the means of digital assistants. In the current scenario, digital promotions play a vital role in marketing, amongst the most creative and efficient are being raised by cooperates. Photoshop serves as a language in communicating a detailed description of the product/event in a pixelated sheet. The session spoke about creating a digital poster from a blank page using the basic tools and layer masks. The session was greatly appreciated by both the students and faculty. It has immense impact on participants. The workshop was concluded by an interactive session followed by a competition in designing an ID Card. More than 20 students took part in the event.



Fig. Workshop on Photoshop

Quiz Competition at Musaliar College of Engineering Chirayinkeezhu

The IEEE IAS SB Chapter Musaliar College of Engineering, Chirayinkeezhu conducted quiz competition as part of the women week covering the areas in general knowledge, engineering and science, current affairs, aptitude and reasoning on 7th March 2019. A total of 60 students participated in the quiz competition. Student coordinators monitored the competition and the staff coordinators evaluated. Ananthu of S6 EEE won the prize.



Fig. Winner of Quiz Competition at Musaliar College of Engineering Chirayinkeezhu

International Women's Day Celebration at UKFCET

The International women's day was celebrated by IEEE IAS SB Chapter UKFCET in association with Women's cell at UKFCET on 8th March 2019. The event was filled with the active participation of the girl students in the contests and interaction

during the inaugural session. The program was officially inaugurated by Dr R Sujatha, Deputy Director of UKF College and felicitated by Dr E Gopalakrishna Sarma, Principal and Ms Ramani, Head of Computer Science Department and Mr Sundaresan, PTA Patron. A quiz contest held with girl participants from all branches of all the four years. Also 'Identify the personality' called Aswamedham' was also conducted which was so live and cheerful. The new logo of Women's cell unveiled during the event by the deputy director and the designer was well appreciated on the stage. A total of 60 students participated in the event.



Fig. International Women's Day Celebration at UKFCET

STHREE - Women's Day Celebration at Musaliar College of Engineering Chirayinkeezhu

The IEEE IAS SB Chapter Musaliar College of Engineering, Chirayinkeezhu conducted Women's Day Celebration titled 'STHREE' on 8th March 2019. The program was inaugurated by the women members of IEEE. A cake cutting ceremony was conducted as part of this program.

The prize distribution of various events occurred during the women week was conducted. A skit by IEEE students on the topic 'Suffering of Women' was performed and a short film on women empowerment was screened. All the IEEE members attended the event.



Fig. Women's Day Celebration at Musaliar College of Engineering Chirayinkeezhu

International Women's Day Celebration at GEC Thrissur

IEEE PELS SB Chapter together with IAS SB Chapter Government Engineering College, Thrissur celebrated women's day on 8th March 2019. The theme for Women's Day 2019 was selected as 'Backstager- The Women Behind the Curtain'. The session was aimed at acknowledging the efforts that a woman put in each and every event happening in our lives, but that goes unnoticed. The meeting was inaugurated by the Chapter Advisor Dr Jaison Mathew. The program was conducted as an experience sharing session. The sessions was greatly appreciated by both faculty and students. The event had a participation of over 40 members.

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Fig. International Women's Day Celebration at GEC Thrissur

She Tech - College of Engineering Karunagappally

The IEEE IAS SB Chapter CEK in association with Women In Engineering(WIE) conducted a workshop on10th March 2019. The first phase included watching two videos. The videos were very motivational to all the students. Then general idea pitching was done group wise on the topic 'Decomposition of Pads'. The programs were organized to make the students be bolder and more active in this 21st century. The second phase narrated by Gopakumar C, HOD of Electronics and Communication Dept. An interactive session was taken on topic 'Open Source'. It was very informative and perceivable to all the students. Then the session gets down with the workshop on electrical boards.



Fig. She Tech at College of Engineering Karunagappally

At last, the program terminated with the presentation of the idea pitching by the students. There was active participation of 40 students for the workshop.

IAS and PELS chapter Inauguration and Invited Lecture Program

The inauguration of IAS and PELS student chapters of IEEE SB Chapter GCEK took place on 11th March 2019. The chief guest of the function was Dr Sanjeeb Kumar Panda, Associate professor National University of Singapore. He inaugurated the function and delivered the inaugural address. A 1-hour lecture session by Dr Sanjeeb Kumar Panda on the topic 'Can a dumb electrical load be made smart using electric spring to mitigate renewable energy source variability issue?' A total of 63 students attended the session. As a token of appreciation, a gift was presented to the guest of honour, Dr Sanjeeb Kumar Panda by Dr Jayaprakash P.



Fig. IAS and PELS chapter Inauguration and Invited Lecture Program at GEC Kannur

IEEE PELS Inauguration and Invited Lecture Programme at GECT

The IEEE PELS SB Chapter Government Engineering College, Thrissur was inaugurated on 12th March 2019 by Dr Sanjib Kumar Panda, Professor of National University of Singapore NUS) and PELS Asia-Pacific Regional Chair. In his inaugural address, Dr Panda presented a brief history of the PELS Society 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. The invited talk by Dr Sanjib Kumar Panda on "Can a dumb electrical-load be made smart using electric spring to mitigate renewable energy source variability issue?" was highly enlightening and informative. The talk was followed by an interactive session with the students. More than 40 students participated in the program.



Fig. IEEE PELS Inauguration and Invited Lecture Programme at GECT

IEEE PELS Inauguration and Invited Lecture Program at CEK

IEEE PELS SB Chapter College of Engineering Karunagappally inaugurated their PELS Chapter which is a society that covers a broad range of technical fields, including plasma science and applications, nuclear power instrumentation and control systems and soon on 13th March 2019. All the IEEE members eagerly showed their presence in the meeting. The inauguration/launch of the technical chapter was executed by the Sanjib Guest Chief Dr Kumar Panda, Associate Professor at the National University of Singapore by lighting the lamp along with IEEE IA/IE/PELS Jt. Chapter Kerala Section Chair Prof Muhammed Kasim S. The first technical talk was handled by the Chief Guest Dr.Sanjib Kumar Pande on 'How dumb electric load can be made smart' and also he shared his research works to the students to get more interested and motivated in the field of Engineering.



Fig. IEEE PELS Inauguration and Invited Lecture Program at CEK

The second session was taken by Mr Sateesh A V, Radiation Protection Officer, Nuclear Power Corporation of India Ltd on the Working of the Nuclear plant, the precautionary methods undertaken, and about the vision of the plant' which was very informative to the students. The sessions were enriched by knowledge on various technologies and enlighten the students with a better vision. More than 50 students participated in the event.

Prelims of QUEST at UKFCET

IEEE IA/IE/PELS Jt. Chapter Kerala Section conducted a two-level quiz competition as a part of Women's day celebration in all IAS SBC's around Kerala. The preliminary level was conducted within the SB Chapters. As a part of it, the IEEE IAS SB Chapter UKFCET conducted the primary level quiz on 15th March 2019. There were about 50 participants from various departments. The event was volunteered by ExCo members. The winner of the competition was Mr Nizamudeen from S8 CSE who secured 17 marks.



Fig. Prelims of QUEST at UKFCET

The second position was shared by Ms Rejitha Raveendran of S6 CSE and Mr Prajith A S of S6 EEE by securing a score of 15. They were selected for the next level quiz conducted by IEEE IA/IE/-PELS Jt. Chapter Kerala Section. The feedback of the participants was highly positive and they actively participated for the same.

QUEST at CEK

The IEEE IAS SB Chapter CEK in association with IEEE IA/IE/PELS Jt. Chapter Kerala Section conducted a quiz competition named "QUEST" on 15th March 2019. The quiz was set up as a part of International Women's Day Celebration 2019. The themes of the quiz were women empowerment, technology, space and science. The quiz contained questions from different and unique realms providing a healthy challenge to the students. Each and every student invested all of their knowledge and learning to effective use. The themes guite efficiently threw light on the celebration of womanhood and various technological information that enriched the students with a better vision. The event was a great initiative to involve the students in something worthy and was a great success. A total of more than 30 students participated in the competition.



Fig. QUEST at CEK

QUEST at RIT

On 15th March 2019, the IEEE IAS SB Chapter RIT along with WIE under the IEEE IA/IE/PELS Jt. Chapter Kerala Section conducted the prelims of the two-level quiz competition 'QUEST'. More than 40 students participated in the event. The theme created a lot of attention and made the students to understand the value of the time the women spend for both her family and society. The students encouraged the volunteers to have an open talk on 'The life of women'. After the competition, they choose Abdul Ahad of S2 EEE and Joseph Pellissery of S2 ECE as the winners and the people to participate in the second level of the competition.



Fig. QUEST at RIT

CHATBOT Workshop

The IEEE IAS SB Chapter TKMCE conducted the Chatbot workshop on 17th March 2019 as a pre-event of Hestia'19. The workshop focused on creating a chatbot using DialogFlow. Topics covered were how to create a Chatbot using DialogFlow? and discussion on Intents, Entities, Webhooks in DialogFlow. The workshop enabled the students

to create a helper chatbot and trying and testing the Chatbot at various platforms. The students got an exposure to DialogFlow from this workshop and were able to deploy their own chatbot. The workshop proved to be very informative and motivating for the attendees through the feedback. About 17 students participated in the workshop.



Fig. CHATBOT Workshop

Industrial Visit to Load Despatch Centre Kalamassery

An Industrial visit to the Load Despatch Centre, Kalamassery was jointly organized by the IEEE SB and IAS SB Chapter Musaliar Engineering College of Engineering, Chirayinkeezhu on March 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 & 4 faculty members joined the trip. After the visit, the students were taken to nearby Lulu mall and marine drive. At the marine drive, a boat trip conducted. The next was students were taken to the Ernakulam hill palace and Mattancherry.

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Fig. Industrial Visit to Load Despatch Centre Kalamassery

AR and VR Workshop

Augmented reality and Virtual reality are two of the new and emerging technologies in the world and to enrich the young and inspiring minds with a bit of these two technologies the IEEE IAS Chapter UKFCET conducted a SB two-day workshop on AR and VR on 23rd and 24th March 2019. The workshop was taken by team Quolab led by Mr R S Nithin, IEEE webmaster Asia Pacific region 10, webmaster Kerala section, vice chairman IEEE young professionals. On the first day, participants explored the world of game development. participants developed The racing game through Unity and they familiarised with C programming.



Fig. AR and VR Workshop

On the second-day delegates entered into the world of augmented and virtual reality. They become aware of Vuforia SDK, Image targeting and tracking, shooting video in the green mat with 3D effect. A total of 98 students from different colleges participated in the workshop.

A Visit to Navajeevan Abhaya Kendram Kollam

A Visit to Navajeevan Abhaya Kedram, Nedumbana, Kollam was jointly organized by ASTHRA 2K19 Musaliar College, IEEE IAS SBC Musaliar College and IEEE Student Branch Musaliar College of Engineering, Chirayinkeezhu on 25th March 2019. The visit was to find out what kind of help the student branch can do to the needy. Many students and faculties joined the visit. They also brought lunch for the inmates in Abhaya Kendram. The students realised that they were in need of water heaters and TV for entertainment. The Student Branch gave the petition for the need.



Fig. A Visit to Navajeevan Abhaya Kedram, Kollam

'Let's illuminate' - Wiring Competition

As Engineers, it's essential to have working skill rather than academics for becoming more productive in his/her workspace. In order to improve the student's work skills the IEEE IAS SB Chapter UKFCET conducted an electrical wiring competition on 27th March 2019 as part of tech fest Masquerade 2019. It was conducted as an inter-college level competition and many students from different colleges participated in the competition. The competition was conducted as groups with every team consisting of two members. A total of 8 teams participated in the competition. Each team was given a specific set of conditions that need to satisfied in their wiring and the competition was time-based. The team who successfully complete wiring the circuit on board neatly and quickly as possible was chosen as the winner of the competition. Apart from this, the maximum time allowed to a team was restricted to one hour.



Fig. 'Let's illuminate' - Wiring Competition

Spectrum Talk on 'Energy' Auditing and Sustainable Energy'

On 27th March 2019, the IEEE IAS SB Chapter NSSCE Palakkad conducted a talk on ' Energy Auditing and Sustainable Energy'. The objective of conducting this session was to create awareness regarding the significance of energy conservation and the role of sustainable energy in the contemporary world. The session was handled by Prof Sheela S, a well-experienced faculty of the Electrical and Electronics Department. Energy conservation is growing to be a relevant topic because of the limited availability of non-renewable energy resources on earth. There are certain initiatives that have to be taken to access the needs and stabilize the energy spending day-by-day and there comes the relevance of Energy Audit. It reveals the usage patterns, identifies waste, over expenditure and generally makes us fully cognizant of how the energy has to be utilized. The event had a participation of more than 30 students.



Fig. Talk on 'Energy Auditing and Sustainable Energy'

Technical Seminar by Department of EEE and ECE of Musaliar College of Engineering Chirayinkeezhu

As part of Technical Festival conducted on 29th and 30th March 2019, the IEEE PELS SB Chapter conducted three technical talks jointly with the Department of EEE and ECE on 18th March 2019. The Principal Dr C Sam presided over the meeting. The Chief guests were Dr Chinmoy Saha (Chair, APS Chapter IEEE Kerala Section), Dr Apren T J (President R&D centre, NeST Group Trivandrum) and Dr Premlet B. (Chair, Educational Activities IEEE Kerala Section). After the inauguration, Dr Chinmoy Saha talked about 'Recent trends and opportunities in Antenna and EM research'. It was an inspiring talk, gave the students an idea about the working of antenna and growth of antenna era. Dr Apren T J gave a talk on 'Challenges in Space Communication '. The students got an insight into the area of Space communication which was a new and exciting experience. The last talk was taken by Dr Premlet B on the topic 'Quantum mechanics of Nanotechnology'. Including IEEE students, there were 90 students who participated in the event.



Fig. Technical Seminar at Musaliar College of Engineering Chirayinkeezhu

Event Launch 'PRAYOJAKA'

IEEE SB ASIET in association with IAS SB Chapter and Alumni Association of ASIET proudly launched the event 'PRAYOJAKA' on 19th April 2019. The proposed event is set to take place on 3rd May 2019. The program is a project expo for the final year BTech students of the institution. The major objective of the program is to make the best brains to come out with flying colours and to let the world know of the unique ideas of the students of the institution. Innovative projects from various departments of the college are invited for the contest. These projects then compete against each other and the winner is given the title of project. Excitina the best cash rewards will be given to the winners of the event.



Fig. Event Launch of 'PRAYOJAKA'

ELEKTRA 2019

A three-day technical summit 'ELEKTRA' 2019' from 5th to 7th April 2019 was coordinated by Department of EEE in association with IEEE PES and IAS SB Chapters College of Engineering Munnar. The event was inaugurated on 5th April, by Mr Jabir Mudambra, Electrical inspector

Idukki District. It was followed by a technical session by himself on the topic 'Electrical Safety'. There were two parallel workshops on Installation of Solar PV Blockchain. The systems and workshops were handled by experts from the respective fields The proceedings of day started with an the second industrial visit to Solar-Powered Microa-Marayoor and Hydro Electric Power Station, Mattupetty. The third-day program started with a sunrise trekking. It was one of the major attractions of the event and made the joy of the delegates at its peak. The trekking was followed by a session on 'Entrepreneurship' by Er Sonia Mohandas, CEO, Waferchips techno-solutions. The 3-day programme ended up with lunch and a photo session.



Fig. ELEKTRA 2019

Weekly Online Quiz

The IEEE SB ASIET in association with the IEEE IAS SB Chapter conducts a weekly online quiz for the students of ASIET every Friday. The aim of the weekly quiz is to build a world of knowledge for the students of the institution. Once the question is uploaded, the link to the quiz

along with its opening and closing time is circulated to each and every department groups of the institution. When the link opens, the students can enter the link. A single question is asked every week which can be a multiple choice question or of a short answer type. The candidate has to submit the answer and the responses are recorded. The link is closed at the closing time and every response is evaluated. The weekly responses are recorded and the students are rewarded with exciting prizes at the end of the year.

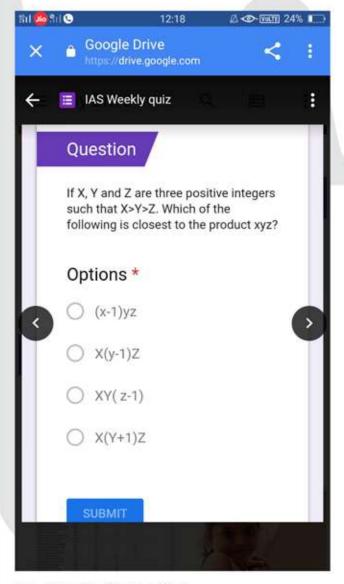


Fig. Weekly Online Quiz

Expert talk on Design Steps for Power Electronic Converters

IEEE IAS Student Branch Chapter IIST had organized an expert talk on 'Design Steps for Power Electronic Convertors' on the 31st of July 2019. The expert talk was given by Prof (Dr). H. M. Suryawanshi, Professor from the Department of Electrical Engineering, Visvesvaraya National Institute of Technology, Nagpur (India) and Chair Professor of Indian National Academy of Engineering (INAE). The secretary of IA/IE/PELS IEEE Kerala Section Prof. Biju K was present on this auspicious occasion. The technical talk covered the topics such as specification of converters, selection of power semiconductor switches, selection of magnetic material, design of snubber circuit and heat sink, design of gate driver circuit, different topologies of converters and closed loop control. In addition to this Prof (Dr). H. M. Suryawanshi had described the research that is done on converters in VNIT Nagpur.

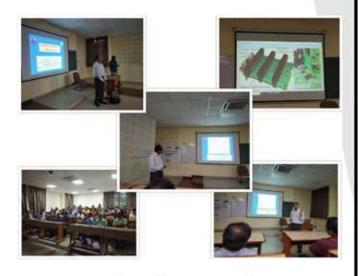


Fig. Design Steps for Power Electronic Converters

EI ISQIP OVERVIEW

EI IEEE Student Quality Improvement Programme (EI-ISQIP) is a day-long training program, organized, coordinated and conducted by IEEE Industry Applications Society Student Branch Chapter College of Engineering Chengannur in association with IEEE Instrumentation & Measurement Society Student Branch Chapter College of Engineering Chengannur from 6th to 8th July 2019. EI ISQIP hosted its second edition in this year's massive take on the flagship programme. The event took off with a workshop on NodeMCU using IoT. Beginning with the basics and then moving forward through the advancements of the era, the following session covered an introduction session to Industrial Automation as well as its scopes and applications. The second day and final day handled two phases of a hands on workshop on Industrial Automation using PLC and SCADA, covering the basics, uses, interfacing with output elements and much more.



Fig. EI ISQIP at College of Engineering Chengannur

Introduction to Arduino & Build a Line Follower

IEEE IAS SBC SCT in association with IEEE RAS SBC SCT conducted a workshop on "Introduction to Arduino & Build a Line Follower" on 18th August 2019 from 9.30 am to 4.30 pm. It was primarily a promotional event of above societies and was presented by Anirudh L. It included introduction on Arduino, Arduino IDE and Line Follower implementation. Students got familiar with the IDE platform and programming. Followed by that the concept and working of Line Follower was explained.



Invited Lecture on Basic Concepts in Power Electronic Converters

IEEE Power Electronics Society (PELS) Student Branch Chapter Government Engineering College Thrissur (GECT) organized an 'invited talk' on 30 August 2019. Dr. Dinesh Gopinath, Associate professor, College of Engineering Trivandrum, delivered the lecture on 'Basic Concepts in Power Electronics Converters'. The program was followed by an interactive session, during which partici

-pants asked questions regarding the topic covered. The technical talk covered different topics including specification of converters, selection of power semiconductor switches, selection of magnetic material and heat sink, design of gate driver circuit etc.



IAS, PELS Membership Drive

IEEE IAS Student Branch Chapter of NSS college of Engineering has organized a combined Membership drive session in association with IEEE IAS and IEEE PELS. The freshers from various part of Kerala participated in the orientation class. The class started with some brief ideas about IEEE and other Societies, and explained how these professional bodies work which was followed by a session about Industry Applications Society, Power Electronics Society and its benefits. The session was conducted with the aim to increase the membership strength in both societies. The drive session ended up with an interactive session with students.



Quiz Contest - "Industry 4.0"

IEEE IAS SCT Student Branch Chapter conducted an online guiz contest on "Industry 4.0" on 20th August 2019 at 7.30 pm. Forty-two (42) students from various years and branches participated in the contest. There was a total of 15 multiple choice questions, each having only one correct answer. The questions were based on modern advancement in technology that are major contributors to the data driven Fourth Industrial Revolution, hence the name "Industry 4.0". Adithya Benoy and Siddharth Gopinath of first year Computer Science and Engineering Department bagged the first and second places respectively. Participants found the quiz exciting and were informed on the latest advancement in industrial technology.



Mastermind 2019

Mastermind 2019 organized by IEEE IAS SBC, College of Engineering Chengannur consisted of two phases. The first phase was an online quiz competition which was conducted on the 11th-12th May 2019. 57 students attended the Quiz Competition among which top 10 students won the chance to take their brains to battle in the next phase of the game. The second phase of Mastermind was conducted on 20th August 2019, which was an "Idea pitching" Competition. Students came up with their brilliant ideas, which were graded on the basis of their creativity and technical and economic feasibility. Among the selected ten, Jobal James was identified as the 'Masterbrain' with his brilliant idea of using Machine Learning and Artificial Intelligence in pre-



IEEE PELS DAY at NSSCE

IEEE Power Electronics Society Student Branch Chapter of NSS College Engineering celebrated IEEE PELS day at Seminar Hall of Electrical and Electronics Engineering Department. The auspicious occasion was inaugurated by Sri S Jayakrishnan, Senior Divisional Electrical En gineer Operations, Southern Railway. He has various experiences in the field of engineering and has been working for past thirty years in Indian Railway. He gave a vast idea regarding the relevance of Power Electronics and his experiences and various other scopes in Indian Railway.



Fig. PELS Day Celebrations at NSSCE Palakkad

IAS Membership Development Session

IEEE Industry Applications Society Student Branch Chapter College of Engineering Chengannur organised a membership development session on 7th July 2019. The session was handled by Mr. Nebic J Johnson, Chairman IEEE IAS SBC CEC. Students belonging to different colleges in Kerala including GEC Palakkad, CE Trivandrum etc. were present in the session. The students were given a brief introduction about IEEE Industry Applications Society and the innumerable benefits offered by IEEE for its members. The need for a student branch chapter and the corresponding activities were reviewed. He then shared his experience

about various opportunities IEEE had offered him. The students were also made aware about IEEE resources like IEEE Spectrum, IEEE Xplore Digital Library, IEEE magazines etc. The session resulted in many non - IEEE members showing high interest in joining IEEE as well IEEE Industry Applications Society.



Fig. IAS Membership Development Session

Soft Skill and IEEE Volunteers Training

IEEE SB Chapter of Musaliar College of Engineering conducted a session for Soft skill training, vTools trainin and Benefits of IEEE volunteering by Mr Abey Easow Joseph on 3rd August 2019 at Musaliar College of Engineering. Mr Abey covered the importance of soft skill in our career and how to improve soft skill during our academics and also gave training on vTools and about the benefits of IEEE volunteering. Initially the class was focused in soft skill training. He taught the participants how to face the outside environment. After this event soft skill increasing activities were done, which taught how to work together to achieve a goal. Followed by that, Volunteers training took place in

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which participants were taught on how to use vTools efficiently for creating e-notice, Officer Reporting, Events Reporting, Student Branch Reporting, creating IEEE mail accounts etc. By the end of the session, the students aquired the knowledge to be a better volunteer.



Fig. IEEE Volunteer Training

PELS Quiz 2k19, GEC Thrissur

IEEE Power Electronics Society (PELS) Student Branch Chapter, Government Engineering College Thrissur organized a quiz on basics, history, and application of power electronics. The quiz was organized in two phases; top five groups in first phase were selected to the second phase held on 23rd July 2019. A total of twelve student groups participated in first phase of quiz. The chapter chairman, John A R introduced all the participating teams and quiz master to the audience. The guiz program was witnessed by students and professors. The IEEE PELS student branch chapter advisor, Dr. Jaison Mathew congratulated all the winners. The winners were presented prizes and gifts were given to participants from the audience.



Flg. PELS Quiz 2019 at GEC Thrissur

PELS Day Celebrations

IEEE Power Electronics Society (PELS) Society Student Branch Chapter, Government Engineering College Thrissur celebrated the very first PELS day on 20 June 2019. The celebrations were inaugurated by Head of electrical and electronics engineering department of the college, Dr. Reji P. Speaking on the occasion chapter advisor, Dr. Jaison Mathew congratulated the PELS members on their achievements and mentioned about the future plans of the SBC. IEEE Student Branch counselor Prof. Joseph K D talked on the recent trends in the power electronics. The chapter held a cake cutting ceremony and a socializing event in connection with the celebration



Workshop on 'LinkedIn'

IEEE IAS SBC SJCET conducted a workshop on LinkedIn on 2nd May 2019. The session was handled by Criss Shaji (IEEE IAS SBC SJCET Chair). He explained about various important aspects of LinkedIn, DOs & DON'Ts while using it and the account creation. Session ended up with the account creation of all the delegates.



Fig. Workshop on LinkedIn

Industrial Visit to 'FACT'

Industrial Visit to FACT was organized on 10th July 2019 by IEEE Industry Applications Society Student Branch Chapter College of Engineering Chengannur in association with IEEE RAS SBC CEC, IEEE IMS SBC CEC & IEEE PES SBC CEC. This visit was meant to get the delegates exposed to the industry and its operations, and also to instill a sense of professionalism in them. The 39 delegates along with their two mentors visited the industry having hazardous chemicals that dealt with the production of sulphuric acid, phosphoric acid and ammonia. This practical exposure to the industrial envir-

-nment was highly beneficial for the aspiring engineering students and it was worth their while.



Fig. Industrial Visit to FACT

Revampment of IEEE SB CE Kalloopara

As a part of revampment of IEEE SB CE Kalloopara, Nebic J. Johnson(Student Representative, IEEE IA/IE/PELS Jt. Chapter Kerala & Chairman, IEEE IAS SBC CEC) led a membership development session on 29th August 2019 at College of Engineering Kalloopara. IEEE SB College of Engineering Kalloopara was one of the probation listed SBs of 2019. During the session, he explained about the benefits and opportunities of IEEE, benefits of different society memberships, activities in IEEE Kerala Section and different Student Branches.



PLC And SCADA Workshop

IEEE IAS TKMCE and CGPU TKMCE organized a 2 day workshop on PLC (Programmable Logic Controller) SCADA (supervisory control and data acquisition) on October 19th and 20th. On the first day, The students were enlightened about the emerging automation industry and the necessities for having knowledge in PLC and Scada Systems. The workshop helped the students to understand the basics of PLC programming and also gave them practice on ways to automate the industry. They were able to work on problems like Two way Traffic Systems, Automatic Car Parking system .The students were provided the latest software CelioSoft2.0 to work with. The workshop focused on PLC hardware, software, digital and analog control using PLC, Introduction to programming of PLC and programming digital logic gates. All the students were inculcated with the basic fundamentals of the same. By the end of the first day ,the students were able to tackle several problems put forward to them on their own.

On the second day, the students dealt with some more basic instructions like Timer & Dealer Counter Circuits and also more functions of PLC with practical applications. By afternoon, the workshop forwarded on to Scada Programming and were provided with INTOUCH software developed by the most famous brand Wonderware. The students were able to try out several methods to implement and display the working of an automated industry using SCADA. They

were also able to learn the working of an automated bottle making industry by the end of the day. There were a total of 25 participants attending the workshop. They were provided with the software on site. The sessions were from 9 am to 4pm with a lunch break in between. The participants were extremely keen and enthusiastic as it was a hands on session.



Fig: Delegates at PLC and SCADA workshop

ORIENTATION

Fresher's Orientation Session was organized by IEEE Execom members of Rajiv Gandhi Institute of Technology, Kottayam on August 2019 at College Auditorium. IEEE RIT SB chair Abhijith addressed the newly joined 1st years of CS, EC, EEE and ME departments. He gave a brief description about the IEEE organization and its motives. IAS chair Nithin V M gave a brief introduction about the Industrial Application Society and gave an idea about the benefits of joining the IAS chapter. He discussed the volunteering and technical benefits which a student can earn from joining this organization. Group activities were also conducted among the students as an ice breaking session. Activities and games were arranged along with the orientation session to nourish their coordination and leadership skills.



Fig: Nithin V M explaining about IEEE IAS

Technical Lecture On 'Recharging Electric Vehicles Using Smart Meter'

IEEE Industry Applications Society Student Branch Chapter College of Engineering Chengannur organised a technical lecture on "Recharging Electric Vehicles using Smart Power meter on 19th September 2019. The session was handled by Ms Anne Benoy, who gave an elucidation on Electric vehicles and smart power meters. She illustrated the escalation of electric vehicles and foreseen marketing advancement in the near future. She emphasized on the multiple challenges posed by battery recharging and hence the installation of smart power meters in commercial parking deciphers the conundrum. The session was organised in an interactive and engaging manner, It helped the students to improve their idea on the topic and gave a better understanding on how smart power meters are required in the near future. Also, the session assisted in increasing the interest of the students on the topic as well.



Fig. Anne Benoy taking the technical lecture

SDLP

The Section Distinguished Lecture Program was conducted by IEEE IAS Student Branch Chapter NSS College of Engineering, Palakkad in collaboration with IEEE Kerala Section on 31st October 2019. The half-day session was handled by renowned speaker Dr. Deepak Mishra, Department of Avionics, IIST Thiruvananthapuram. The distinguished lecture program was on Machine Learning, which is very prominent as far as technical education is concerned. About students attended the session. Among them, there were IEEE IAS student members of NSS College of Engineering and Ammini College of Engineering. The lecture was worth attending in which topics like Neural Networks and Deep Learning were covered. After attending the session we could analyse the scope of deep learning and neural networks in machine learning. The lecture started with deep learning, how the machine processes two similar images and distinguishes the two, such as a Barn owl and an apple. We could also

We could also understand that Mathematics, especially probability and statistics are indispensable in learning the concepts of deep learning. As we all know, probability is the science of quantifying uncertain things. Most machine learning and deep learning systems utilize a lot of data to learn about patterns in the data. Whenever data is utilized in a system rather than sole logic, uncertainty grows up and whenever uncertainty grows up, probability becomes relevant. Due to this fact, concepts like Bayes decision theory and Nearest Neighbour Classifier were discussed. Bayes decision theory mainly focuses on Posterior probability which says which class is more likely to happen. Bayes classifier minimises error. But in the case of Nearest Neighbour classifier, there is no statistical view point, hence the error in Nearest Neighbour is twice that of Bayes classifier. Another concept discussed was discriminant function. Professor also explained that neural networks are an example of Non linear discriminant function. A simple iterative algorithm called Perceptron Learning algorithm which comes under linear classifier was discussed as well.



Fig: IAS SBC NSSCE volunteers after SDLP session

Workshop on Transistors

Industry Applications Society of IEEE SB RIT conducted a three day workshop on 'Transistors' on 30th October to 1st November from 4pm - 6pm. Workshop was taken by Vishnu P R student of our Electrical Department. The workshop was conducted at Electrical Department Classroom. The workshop was fully hands-on and each student implemented the basic circuits using transistors and mosfets and understood the basic concepts of electronics which are beneficial for their growth in technical knowledge.



Fig: Delegates at workshop on Transistors

Summer Internship Progam - PGCIL

Summer internship program days was organised to students as two batches in one of the core companies of electrical and electronics departments, Power Grid Corporation of India Limited (PG-CIL), Pallikkara. One batch of 8 students attended the internship from May 27 to May 1,2019. And another batch of 7 students attended from May 3 to May 8, 2019. The students got to learn the working of the substation, the equipments present, HVDC method of power transmission, optical fibre communication, working of grid systems etc. They also got the opportunity of working closely the officials and authorities with

there. Both the batches were taken for field visits also where they got to learn about power transmission equipments and safety measures taken in a substation. The interns submitted detailed reports to the HR manager and all of them got the internship certificates. The feedbacks received were encouraging for coordinators. Highly thankful to PGCIL, Pallikkara for giving us this opportunity of doing an internship in a core electrical and electronics company.



Fig: Delegates visiting plants at PGCIL

Python Workshop

IEEE SB CEK in association with IEEE CS SBC and IEEE IAS SBC of College of Engineering Karunagappally always takes keen interest in enriching students with programming skills. As a part of it a workshop on introduction to python for the first year students on 19th, 20th and 21st September 2019 at programming lab. The resource persons were Akshay Krishnan and Arun Sreenivas. The workshop was conducted by technically skilled students from the Student Branch. It was a 3 day workshop which includes general introduction to programming and its basics different data types, basic arithmetic operations and differentiating between Linux and Windows.

It was a trailer for their programming exploration. Around 40 students attended the Workshop.It mainly focused on moulding base of programming in the students , without a strong base a good programming career can't be built. The workshop was for all branches of students as programming plays an important role in the field of engineering. students were trained in such a manner that they can now do basics programs by their own. Even though it was a 3 day workshop its impact was unmeasurable as many of the students were using programming language for the first time. Students were well aware of the two operating systems (windows and Linux). The fervour driving the students towards more of such learning encouraged the IAS to conduct further enriching workshops.



Fig: Delegates at Python workshop

Circuit Debugging Competition

IEEE Industry Applications Society Student Branch Chapter College of Engineering Chengannur conducted a Circuit Debugging Competition on 10 th October 2019, Thursday. The event aimed to enhance the students' knowledge on basic circuits and also helped to

showcase their brainstorming ideas in circuit solving. The competition had ten rounds in which the participants were given ten circuits (one circuit for each round). The participants were allotted with a time of 10 minutes for cracking all the rounds. The participants who completed the debugging first and accurately within the specified time were selected as winners. The winners of the competition were Ms. Laya Mariam Joseph, Mr. Ruben Mathew and Mr. Asher Thomas Babu who completed the debugging according to the given rubrics. They were awarded with a cash prize of 1000 Rs.



Fig: Delegates solving circuits

IAS Members MEET UP

An IEEE IAS members meet up was conducted on November 04th, 2019, 12:10 to 1:00 pm. There were many IAS members and Execom members attending the meeting. The IEEE IAS SBC Chair, Nithin V.M of RIT talked about the upcoming activities of the IAS chapter and explained about the renewal of the IAS membership to the members. Also the members were informed about the Link Camp and its selection procedures in the meeting. It was a good opportunity for the members to know more about the successful

workshop conducted during the past days and about the upcoming Hackathon Event. It was also an opportunity for the IAS Execom to collect the feedback from the members about our IAS Chapter activities and their needs.



Fig: IAS Member MEETUP

SIG-Artificial Intelligence wing

As a part of the "Special Interest Group -Artificial Intelligence wing" of IEEE IAS in association with IEDC of TKMCE, a class was conducted on the topic "Introduction to Machine Learning". A total of 25 participants attended the class. It focused on giving the participants an introduction and a concrete base in machine learning and its applications in the field of artificial intelligence. It also gave the participants a better understanding about the significance of 'Data Science' in the field of artificial intelligence. The participants actively participated in answering the questions asked by the speaker. At the end of the session, the participants had an intermediate level understanding about the topics. The whole class was handled by Jerome Francis.



Fig: SIG AI session

IAS SBC CEC Stall at TRIAC

IEEE Industry Applications Society Student Branch Chapter College of Engineering Chengannur organised a technical stall on 'Home Automation using Google assistant' during the event TRI-AC(Technical Revamping Initiative Aspired Concourse) held at FISAT, Angamaly on 27 th October 2019. TRIAC is a two day technical event conducted by IEEE IA/IE/PELS Jt. Chapter Kerala, IEEE PES Kerala Chapter and IEEE ComSoc Kerala Chapter.

The stall was handled by Mr. Aswin A Kumar and Mr. Ruben Mathew. They gave the students an introduction about Home Automation using Google assistant, an IoT platform based project which is used to control home appliances, devices etc. They also familiarised the students about NodeMCU and two softwares called Adafruit and IFTTT (If Then This That) which were used in their project. Students from various colleges in Kerala visited the stall. The students had an enthralling experience and all the doubts of students regarding home automation were also elucidated at the stall.



Fig: TRIAC Delegates at IAS SBC CEC stall

SIG IOT

A class on introduction to IOT & micro-processor was conducted by SIG IOT on 31st October, 2019 at 4:30 pm. It was taken by Akhil P. Through the interaction session the depth & interest of each student was known. The session was very informative and instilled in minds about the opportunities in the field of IoT in the present and future days. IoT is one of the important technologies which has a great future scope.



Fig: SIG IoT session

Technical Discussion on 'Humanoid Robots'

As part of the IEEE Day celebrations, IEEE Industry Applications Society Student Branch Chapter College of Engineering

Chengannur conducted a technical lecture on 'Humanoid Robots' on 4th October 2019. The session was handled by Mr Justin Monachan. The session aimed to enlighten the students with the emerging and challenging scopes of humanoid robots in the future. He opened his lecture by questioning and describing 'What are Humanoid Robots?'. He gave the students an idea about the history of humanoid robots and mentioned some of the famous humanoid robots like Sophia robot, Da Vinci robot etc. He then introduced the humanoid robot AR-MAR-6 to the students and explained the need for ARMAR-6 and its duties through a demonstration video. The future aspects of humanoid robots in various fields were also discussed. The lecture was helpful in inculcating a positive attitude towards Humanoid Robots among the students. The feedback received from students suggested that they welcomed this initiative and were motivated to explore more dimensions in this platform, along with being willing to do projects and research works related to this field.



Fig: Technical lecture on 'Humanoid Robots'

Quiz Program

Industry Applications Society Student Branch Chapter ASIET conducted weekly online quiz for the students of the institute every Friday. It is an online competition and the time is announced prior to the competition on the day of the quiz. The major aim of the quiz is to make the students up to date with the present technological changes and to build a world of knowledge for the students of the institution. Questions from various subjects like Mathematics, Basic Science, General Knowledge etc. were asked each week.

Membership Development Program

IEEE Industry Applications Society Student Branch Chapter College of Engineering Chengannur organized an orientation class for the first year students on 18th September 2019. The session was handled by IAS student members who were allotted to each class respectively. The session commenced by an elucidation about IEEE as an organization and its history. It predominantly concentrated on the IEEE Industry Applications Society, its benefits and opportunities that it provides to the student members. Each person shared about their experience as an IEEE volunteer and an IAS member, and about various events that they were a part of. They were informed about the various opportunities like volunteering, paper presentations, workshops and other intriguing events that they would be able to attend which would help them as an engineer. The session evoked enoticing feedback from the students and encouraged them to join IEEE and IEEE Industry Applications Society.

TRIAC Stall by IAS SBC JCET

A team of IEEE IAS SBC JCET volunteers led by Kirandas M, MDC, IEEE SB JCET, organized a stall on LiFi technology during TRIAC at FISAT on 27 th October 2019. The volunteers explained about LiFi technology, its working & scope of the technology to the delegates of the event from various colleges across Kerala. About 255 student members were able to understand the technology and its aspects.

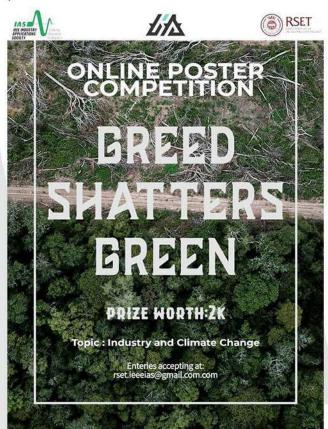


Fig: TRIAC Delegates at IAS SBC JCET stall

GREED SHATTERS GREEN -Online poster DESIGNING competition

RSET IEEE IAS CHAPTER conducted an online poster designing competition on climate change and deforestation. The competition was held in the name 'GREED SHATTERS GREEN'. It was an intercollege poster competition in which students from throughout the state participated. The competition was live for two weeks from November 1 to November 14 2019 entries were received and three of

them were selected for prizes. The competition saw the great abilities and talents of the students in making environmental posters.



Educational Activity.

IEEE Industry Applications Society Student Branch Chapter College of Engineering Chengannur conducted an educational activity on 'How to face university exams' for the first year students on 22 nd November 2019. The session was handled by Ruben Mathew, Laya Mariam Joseph and Aswin A Kumar. Ruben Mathew gave an introductory talk on how to successfully prepare for exams by highlighting some useful tips. Laya Mariam Joseph and Aswin A Kumar familiarised the students with some proven methods they tried while preparing for the exams. They stressed

the importance of using diagrams or schematic representations in exams. Then, they gave tips to reduce exam anxiety, organize course notes, manage time etc. They shared their experiences they had while preparing for exams, attending exams and also how they prepared successfully for university exams. Interesting feedback was received from the students at the end of the session.



Fig: Educational Activity by IEEE IAS SBC CEC

Technical Lecture on 'Synchronous Motors'

IEEE Industry Applications Society Student Branch Chapter College of Engineering Chengannur conducted a technical lecture on 'Synchronous Motors' on 22nd November 2019. The session was handled by Mr. Ruben Mathew, who gave an elucidation on electric motors and its different types. The session mainly focused on synchronous motor, its main features and construction. He then gave a brief illustration of the speed control and the working principle behind synchronous motor. He emphasized the several applications of synchronous motors in commerce, textiles and industries. The session concluded by clearing related doubts and queries of the students. The session was organized in an interactive

and engaging manner which evoked enticing feedback from the students.



Fig: IAS SBC CEC volunteers after technical

Membership Development session at TKMIT

A membership development session was conducted in TKM Institute of Technology, Karakode, Kollam on October 18th, 2019. The session was led by Nebic J. Representative Johnson(Student Kerala Chapter). During his session, he mentioned the importance of IEEE and its societies. The benefits that a organisational unit could provide was described to the volunteers. The different Student activities within IEEE Kerala Section was introduced to the students. He also took time to explain the meaning of IEEE Code of Ethics which is of great importance for an IEEE Volunteer. About 100 students listened to the session and gained a 100% increase in the membership of the SB.



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Designed and Edited by IA/IE/PELS Jt. Chapter Kerala Section

