

DEPARTMENT OF ELECTRICAL ENGINEERING

ACTIVITY REPORT

(2022-23)



GOVERNMENT ENGINEERING COLLEGE PALAKKAD

VISION OF THE INSTITUTE

Excellence through the wings of science and technology

MISSION OF THE INSTITUTE

To transform youth to talented engineers with creativity and integrity who can meet the technological challenges for the service of society.

VISION OF THE DEPARTMENT

To become a Centre of Excellence in Electrical Engineering and allied disciplines for the service of the society.

MISSION OF THE DEPARTMENT

- To impart high quality education to meet the challenges in the field of Electrical and Electronics Engineering.
- To nurture creativity and transform the young minds to become competent electrical engineers.
- To inculcate a sense of commitment to ethical values and a passion to serve the society.
- To foster research, innovation and entrepreneurship skills.

DEPARTMENT OF ELECTRICAL ENGINEERING GOVERNMENT ENGINEERING COLLEGE PALAKKAD

Result Analysis 2022-23

BATCH	2019-2023	2019-2023	2020-2024	2021-2025	2022-2026
SEMESTER	S8	S7	S5	S3	S1
No.of students appeared	66	68	74	74	59
No. of students passed in all subjects	53	61	37	23	26
Pass percentage	80.30%	89.71%	50.00%	31.08%	44.06%

STUDENT ACHIEVEMENTS



2k20batch -Rishikesh –

Participated in KTU E-zone volleyball tournament and reached quarter finals



2k20 batch -Akshara Balakrishnan

Participated at KTU E-zone womens handball tournament and reached Interzone.



JAYASREE KANAGALAKSHMI
S3 EEE



2k21 Batch Jayasree Kanagalakshmi

Then Participated in KTU INTERZONE womens handball tournament and qualified as runner up team



2k18 Batch students – Rasmi K R, Drishnya K V, Sulaiman J

Single Phase Inverter Fed by a Closed Loop Isolated Boost Converter for Domestic Applications” presented at the National Power Conference 2022 organized by KSEBOA and In-SDES on 15th December 2022.



2k18 Batch students – Vasudevan K R, Vishnu P K

“An Improved Method To Alleviate Voltage Sag And Phase Jump Using A Dynamic Voltage Restore”, presented at the National Power Conference 2022 organized by KSEBOA and In-SDES on 15th December 2022.



2k20 Batch Sanal Kumar

Participated in KTU E-zone cricket tournament and reached semifinal



CERTIFICATE OF MERIT

This is to certify that

RAVEENA P

has been declared as the winner of QAPTION'22, a caption writing competition organised by IEEE ComSoc SBC Poonjar along with WIE AG CE Poonjar conducted on 8th March 2022.

Dr. Jobymol Jacob
Branch Counselor
IEEE SB Poonjar

Arjun Nair
Chairperson IEEE SB Poonjar

2k20 Batch Raveena P

Winner of QAPTION'22, a caption writing competition organised by IEEE ComSoc SBC Poonjar along with WIE AG CE Poonjar



2k18 Batch Student Group – Product Launch Zeal Group, Aug. 05, 2022

M/s. ZEAL launched their debut product “An IoT-based automated token dispenser” for hospitals and other public facilities for crowd management and maintaining social distancing.

- **2k19 Batch Ms. Anjima Prabhakar** of the EEE branch successfully completed 10-day residential program Women Entrepreneurship Program (WEP) conducted by Kerala Institute for Entrepreneurship Development, (KIED) at Kalamassery, Kochi, Kerala from 15-22 November 2022.
- **2k19 Batch Ms. Anjima Prabhakar 'Lift App'** was selected as 1st place for incubation at GEC Palakkad

FACULTY ACHIEVEMENTS

Sl. No.	Name	Achievements
1	Dr Meenakshy K	<ol style="list-style-type: none"> 1. Organised IEEE WIE International Leadership Summit (WIE ILS 2022) on July 29 and 30 At Hotel Uday Samudra , Trivandrum 2. Resource person for KTU sponsored FDP on Advancements in Image Processing Applications organised by Dept of Computer Science and Engg, SCMS school of Engineering and Technology , Karukutty from 29 August to 2 September 3. Chaired two sessions on EMBS track for IEEE INDICON , 24-26 November 2022 at CUSAT, Kochi 4. IEEE award for outstanding professional event of the year WIEILS 2022, IEEE award for outstanding volunteering and taking Kerala section to greater heights
2	Dr. Vinita Chellappan	<ol style="list-style-type: none"> 1. Resource person for KTU sponsored FDP on "System Modelling and Control Design - Recent Perspectives" organised by Dept of Electrical Engg, Government College of Engineering Kannur, 30 Jan - 03 Feb. 2023. 2. Resource person for TEQIP sponsored student programme on 'Report Writing' at Government Engineering College, Thrissur, on 23rd Feb., 2023 3. IEEE - MSSS award for outstanding professional volunteer award for the year 2022 4. IEEE - MGA award for Exemplary Student Branch 2022 5. Organised IEEE - MSS National Event "Beyond Glass Barriers-2022" on 18th December 2022
3	Muhammedali Shafeeque K	Investigator of the project aiming at cluster development under (ODOI) One District One Idea – MSME innovation cluster Programme. A preliminary fund of Rs.5,39,260 sanctioned for project expenses related to the identified Shornur Agriculture Implements Cluster innovation plan preparation and shortlisted for final stage of the cluster development.

R & D Projects of the Department

Project	Principal Investigator	Co- Investigator	Amount	Funding Agency
Solar Powered Grid Connected Systems for Domestic Applications	Dr. Vinita Chellappan	Dr. Joseph Peter	Rs. 1,98,000	Teqip II Four Funds
Speed Control of a Switched Reluctance Motor Drive for Electric Vehicular Applications.	Dr. Joseph Peter	Dr. Vinita Chellappan	Rs. 1,98,000	Teqip II Four Funds
Design and Development of BLDC Hub Motor Drive and Controller for EV Bikes	Muhammedali Shafeeque K	Abdul Kareem P V	Rs. 1,80,000	Teqip II Four Funds
Implementation of Smart Meter Data Fetching IOT end device inco-operating Modbus Protocol	Muhammedali Shafeeque K	Muhammad Farooque E K	Rs. 1,80,000	Teqip II Four Funds
Isolated DC-DC Converter fed Space Vector PWM VSI for Induction Motor Speed Control	Dr. Joseph Peter	Dr. Vinita Chellappan	Rs. 47,000	CERD funding

FACULTY/STUDENT PUBLICATION DETAILS

Sl. No.	Authors	Title of paper	Journal/Conf.	Journal/Conf. details
1	Dadi Ramu, Meenakshy K, Suresh K Damodar	An adaptive PI based distributed control method to maintain accurate power sharing and voltage regulation in DC Microgrids	International Conf	INDICON 2022, 24-26 November, CUSAT, Kochi
2	George Remya, Jose Reshma, Meenakshy K, Jarin T, Senthil Kumar S	Effect of long term exercise training on physiological signals and personality traits in women in law enforcement	Journal	Journal of Intelligent and Fuzzy Systems
3	R Dadi, K Meenakshy, S K Damodaran	A Review of Secondary Control Methods in Microgrid	Journal	Journal of Operation and Automation in Power Engineering
4	S. Suresh, J. Peter and V. Chellappan,	"Mathematical Modeling and Speed Control of 6/4 Switched Reluctance Motor Drive,"	IEEE International Conference	IEEE Futuristic Technologies in Control Systems & Renewable Energy (ICFCR), 2022
5	Anees A, Aslam V K, Drishya K V, Rasmi K R, Sulaiman, J. Peter and V. Chellappan	Isolated Boost Converter and Inverter System for Domestic Applications	IEEE International Conference	IEEE Futuristic Technologies in Control Systems & Renewable Energy (ICFCR), 2022
6	J. Peter, R Ramchand	Investigations on Variable and Constant Switching Frequency Hysteresis Controller for VSI fed IM drive	Journal	InderscienceInt. Journal.of Power Electronics,Vol. 16, No. 1, 2022
7	J. Joy, A. M M, A. V M, M. Sabeel P and V. Chellappan	"Dynamic Modeling and Current Control of a Solar Powered Battery Storage Systems"	IEEE International Conference	2022 2nd Asian Conference on Innovation in Technology (ASIANCON), Ravet, India, 2022, pp. 1-7, doi: 10.1109/ASIANCON55314.2022.9909274.
8	A. Narayanan, A. P. C, R. T. A, V. A, S. Kurian and V. Chellappan	"SRM Motor Control using Conventional and Full-Order-Terminal SMC Controller"	IEEE International Conference	2022 2nd Asian Conference on Innovation in Technology (ASIANCON), Ravet, India, 2022, pp. 1-7, doi: 10.1109/ASIANCON55314.2022.9909274.
9	S. Suresh, J. Peter and V. Chellappan	"Mathematical Modeling and Speed Control of 6/4 Switched Reluctance Motor Drive"	IEEE International Conference	2022 International Conference on Futuristic Technologies in Control Systems & Renewable Energy

				(ICFCR), Malappuram, India, 2022, pp. 1-6, doi: 10.1109/ICFCR54831.2022.9893644.
10	Anees A, Aslam V K, Drishya K V, Rasmi K R, Sulaiman P M, Vinita Chellappan, Joseph Peter	"Isolated Boost Converter and Inverter System for Domestic Applications"	IEEE International Conference	2022 International Conference on Futuristic Technologies in Control Systems & Renewable Energy (ICFCR), Malappuram, India, 2022, pp. 1-6, doi: 10.1109/ICFCR54831.2022.9893644.
11	Shaima. EK, Muhammedali Shafeeque K, N. Sajeev and S. A. A. Kormath,	"A New H-bridge Switched Capacitor Based Five Level Inverter"	IEEE International Conference	2022 IEEE Delhi Section Conference (DELCON), New Delhi, India, 2022, pp. 1-6, doi: 10.1109/DELCON54057.2022.9752843.

FACULTY TRAINING – STTP/FDPs

Faculty	Course Name	DTE/TEQIP/ Others	Organiser	Period
Sajitha.M	1. Advancements in Smart Grid Technologies, ASGT'22 2. Robotics - Modeling, Planning and Control - Phase I 3. Data Visualisation & Analytic tools for Data Science 4. Design to Fabrication of Power Electronic Circuits	1. TEQIP 2. TEQIP 3. TEQIP 4. KTU	1. GEC, Thrissur 2. GEC, Palakkad 3. GEC, Palakkad 4. GEC, Wayanad	1.12/09/2022 to 16/09/2022 2.15/03/2021 to 20/03/2021 3.28/09/2022 to 30/09/2022 4.05/12/2022 to 09/12/2022
Madhu V.	1. Electric & Hybrid Vehicles: Scope & Challenges	DTE	GEC Idukki	10/01/2022 to 15/01/2022
	2. Emerging Trends in Power Electronics and Control for Electric Vehicles and Smart grid	TEQIP	GEC Palakkad	19/09/2022 to 23/09/2022
	3. Real-Time Applications of Opal-RT for smart Grids	VIT, Chennai	VIT Chennai	17/10/2022 to 21/10/2022
	4. Data Visualisation and Analytic Tools for Data Science	TEQIP	GEC Palakkad	28/09/2022 to 30/09/2022
	5. AI Applications on Power Systems & Power Electronics	TEQIP	GEC Thrissur	19/12/2022 to 23/12/2022

Vidhun M	1. Robotics Control and Application-Phase 1		MBCET Trivandrum	04/04/22 - 08/04/22
	2.AI Applications on Power Systems & Power Electronics	TEQIP	GEC Thrissur	19/12/2022 -23/12/2022
	3.Advancements in Smart Grid Technologies, ASGT'22	TEQIP	GEC Thrissur	12/09/2022 -16/09/2022
	4.Renewable energy for sustainable development,challenges opportunities and research prospects	DTE	GEC Idukki	30/01/23-03/02/23
	5.Design to Fabrication of Power Electronic Circuits	KTU	GEC,Wayanad	05/12/2022 - 09/12/2022
	6.Emerging Trends in Power Electronics and Control for Electric Vehicles and Smart grid	TEQIP	GEC Palakkad	19/09/2022 - 23/09/2022
	7.Real-Time Applications of Opal-RT for smart Grids	VIT, Chennai	VIT Chennai	17/10/2022 to 21/10/2022
Dr.Joseph Peter	1. Robotics Control and Application-Phase 1		MBCET Trivandrum	04/04/22 - 08/04/22
	2.AI Applications on Power Systems & Power Electronics	TEQIP	GEC Thrissur	19/12/2022 -23/12/2022
	3.Advancements in Smart Grid Technologies, ASGT'22	TEQIP	GEC Thrissur	12/09/2022 -16/09/2022
	4.Renewable energy for sustainable development,challenges opportunities and research prospects	DTE	GEC Idukki	30/01/23-03/02/23
	5.Design to Fabrication of Power Electronic Circuits	KTU	GEC,Wayanad	05/12/2022 - 09/12/2022
	6.Emerging Trends in Power Electronics and Control for Electric Vehicles and Smart grid	TEQIP	GEC Palakkad	19/09/2022 - 23/09/2022
Vinita Chellappan	1. Emerging Trends in Power Electronics and Control for Electric Vehicles and Smart grid	TEQIP	GEC Palakkad	19/09/2022 - 23/09/2022
	2. Research Trends and Control of Robotic Systems	TEQIP	GEC Palakkad	21/11/2022 to 25/11/2022
Muhammedali Shafeeque K	1. Emerging Trends in Power Electronics and Control for Electric Vehicles and Smart grid	TEQIP	GEC Palakkad	19/09/2022 - 23/09/2022

	2. Advancements in Smart Grid Technologies, ASGT'22	TEQIP	GEC Thrissur	19/09/2022 - 23/09/2022
	3. Data Visualisation and Analytic Tools for Data Sciece	TEQIP	GEC Palakkad	28/09/2022 to 30/09/2022
Muhammad Farooque E K	1. Emerging Trends in Power Electronics and Control for Electric Vehicles and Smart grid	TEQIP	GEC Palakkad	19/09/2022 - 23/09/2022
	2. Advancements in Smart Grid Technologies, ASGT'22	TEQIP	GEC Thrissur	19/09/2022 - 23/09/2022
	3. Data Visualisation and Analytic Tools for Data Sciece	TEQIP	GEC Palakkad	28/09/2022 to 30/09/2022
	4. Research Trends and Control of Robotic Systems	TEQIP	GEC Palakkad	21/11/2022 to 25/11/2022

III Cell/VFS/Student Organized by the Department

Faculty	Topic and Details of Faculty	VFS/ VES/ TEQIP/....	Class	Date(s)	Expenditure
Lisy E R	Workshop on Embedded Product Designing: PCB and Enclosures - CAD Modeling by Anuraj N, (CEO and Founder), and Sajeev N (CAD Designer) Saron Innature Labs, LLP)	III Cell	S5, S7	23-24 March 2023	Rs. 19500/-
Vinita Chellappan	CoRaL - Student Challenge Programme	CoRaL	IEEE	16-30th M	Rs. 6450/-
Vinita Chellappan Navaneeth M S Vishnuprasad K	CoRAL Immersive Internship Programme at Attappady Grama Panchayat	CoRaL	IEEE students	2-3rd February 2023	Rs. 16540/-
Muhammad Farooque E K	Effective technical communication and Group discussion “ By Mr. Mohammed Mohzin Associate Senior Manager- Special Projects, BYJU'S, Bangalore	III Cell	S4 & S6 students	23 rd - 24 th June 2023	Rs. 29276/-

Mohammadali Shafeeque K	Familiarisation of Python Programming Language by Dr. Arun Varghese, Dept. of ECE, RIT Kottayam	III Cell	S3 & S5 students	8 -9 Dec, 2022	Rs. 12703/-
--------------------------------	-------------------------------------------------------------------------------------------------	----------	------------------	----------------	-------------

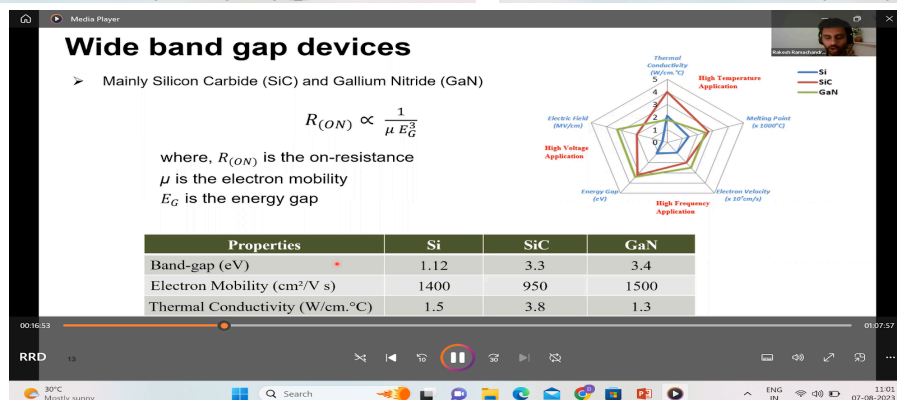
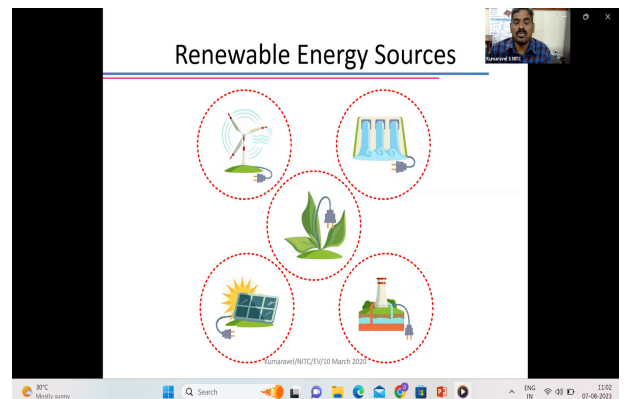
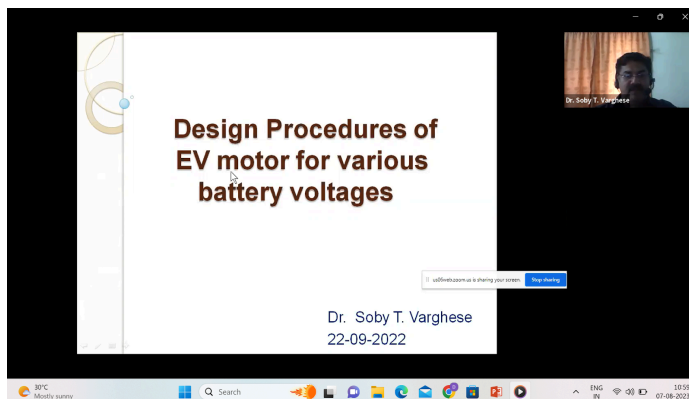
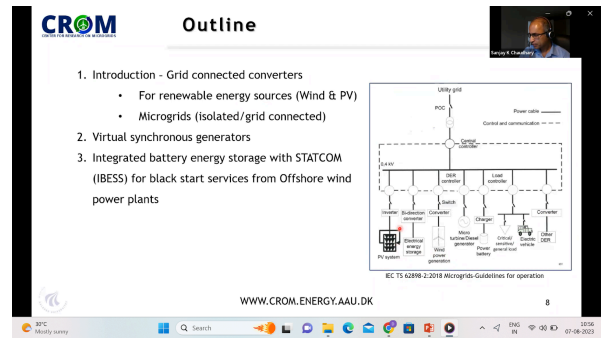
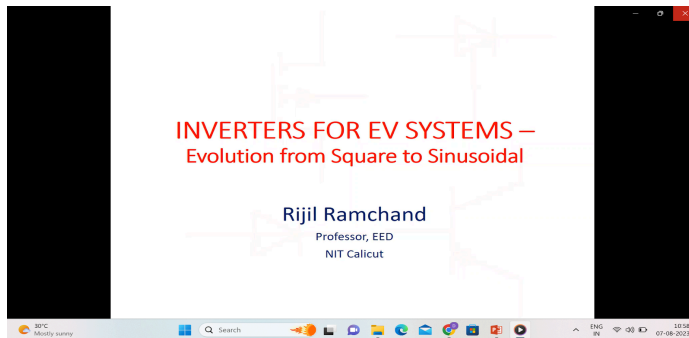
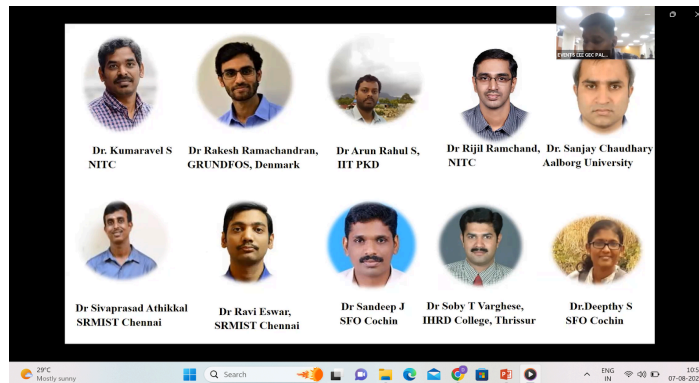
FDPs organized by the Department

Faculty	Course name	DTE/TEQIP/Others	No.of faculty attended	Period	Expenditure
Sajitha.M and Dr.Joseph Peter	Emerging trends in Power Electronics and Control for Electric Vehicle and Smart Grid	TEQIP	75	19/09/2022 to 23/09/2022	39034
Muhammad Farooque E K and Vinita Chellappan	Research Trends and Control of Robotic Systems	TEQIP	73	21/11/2022 to 25/11/2022	47534/-

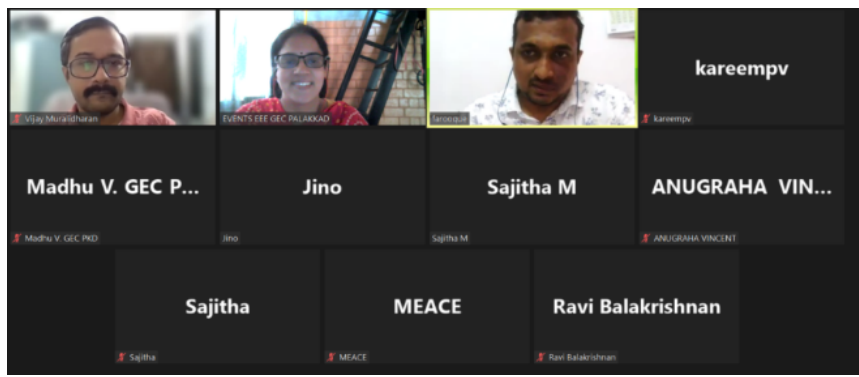
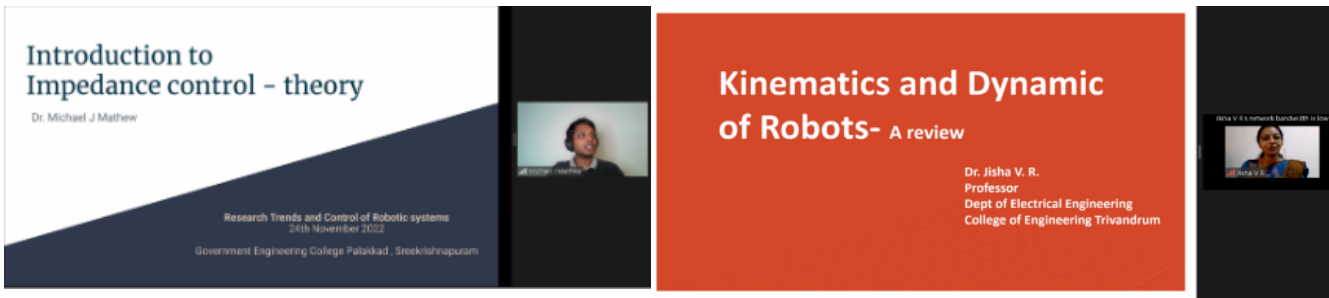
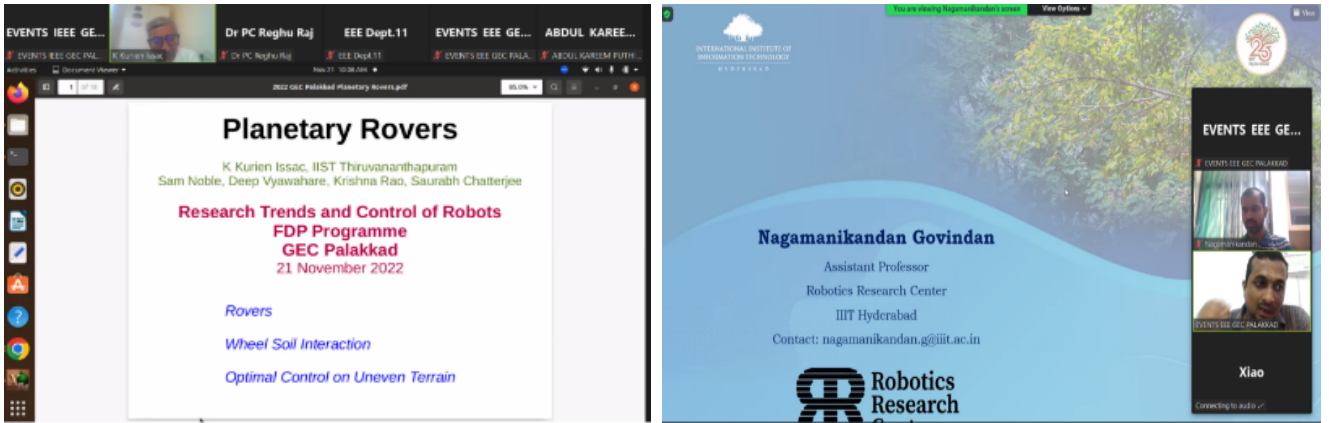
PHOTOGRAPHS OF MAJOR EVENTS IN THE DEPARTMENT

TeQIP Four Funds - Faculty Development Programme on Emerging Trends in Power Electronics and Control for Electric Vehicles and Smart grid held during 19/09/2022 - 23/09/2022

Coordinators: Dr. Joseph Peter & Prof. Sajitha M



**TeQIP Four Funds Faculty Development Programme on
Research Trends and Control of Robotic Systems held during 21/11/2022 to 25/11/2022**
Coordinators: Prof. Muhammad Farooque E K & Dr. Vinita Chellappan



**CoRAL Immersive Internship Programme at
Attappady Grama Panchayat 2nd – 3rd February, 2023 Coordinators:**

Coordinators: Dr. Vinita Chellappan, SIGHT Advisor and IEEE SB Counselor
Prof. Navaneeth M S , TBI Coordinator
Prof. Vishnu Prasad K, CERD Coordinator





**CoRAL Workshop on Embedded Product Designing: PCB and Enclosures – CAD Modeling,
23-24th March 2023**

by Anuraj N (CEO and Founder and Sajeev N (CAD Designer, Saron Innavature Labs, LLP)
Coordinator: Dr. Lisy E R



The poster features a 3D rendering of a yellow PCB with various components. At the top, logos for IEEE Student Branch, CoRAL, and IEEE are displayed. The main title 'PCB & 3-D Modelling Workshop' is in large, bold, white and yellow text. Below it, a subtitle reads 'A 2 day workshop on PCB designing and 3-d Modelling using CAD software.' A yellow calendar icon indicates the dates '23rd & 24th March'. A quote states: 'Sharpen your designing and modelling skills through this guided workshop led by Anuraj N, Founder & CEO, Saron Innavature Labs LLP.' At the bottom, contact information for Sanju (9495951143) and Reny (9497447195) is provided, along with a 'REGISTER NOW' button and social media handles for IEEE SB GEC PKD.



CoRAL Student Challenge Programme

Coordinator: Dr. Vinita Chellappan

Rohit K is presenting

INTRO

ROHIT K
FINAL YEAR - B TECH ELECTRONICS AND COMMUNICATION ENGINEERING

PREVIOUS INNOVATIONS

- DUAL ALERT CHAISS
- AERIAL WATER MAKER
- LED FINGER BAG WORK
- SANTITIZING BAND
- AQUALIZER

ACHIEVEMENTS

- NATIONAL CHILD AWARD FOR EXCEPTIONAL ACHIEVEMENT 2016
- APJ ABDUL KALAM SCHEME AWARD 2017
- VIP 2018 WINNER
- IEEE YOUNG PROFESSIONAL AWARD WINNER
- IIT INNOVATION AWARD WINNER
- TV PADMAKUMAR TALENT AWARD
- SOUTH INDIAN SCIENCE FAIR WINNER

Participant grid:

- Rohit K
- PAVAN NAIR
- Dr. Anitha R Asst. Profess...
- Dr. Meenakshy K EEE
- Jimal Tomy Official
- Vaishakh Suresh
- Lakshmparvathi Pm
- You

Powering the Future: Smart Grid Technologies for Sustainable Energy

Vaishakh Suresh

Vaishakh Suresh is presenting

Methodology - Distributed Energy Resources

DERs, such as solar panels, wind turbines, and energy storage systems, are installed at or near the point of energy consumption and can generate, store, and distribute energy to the grid.

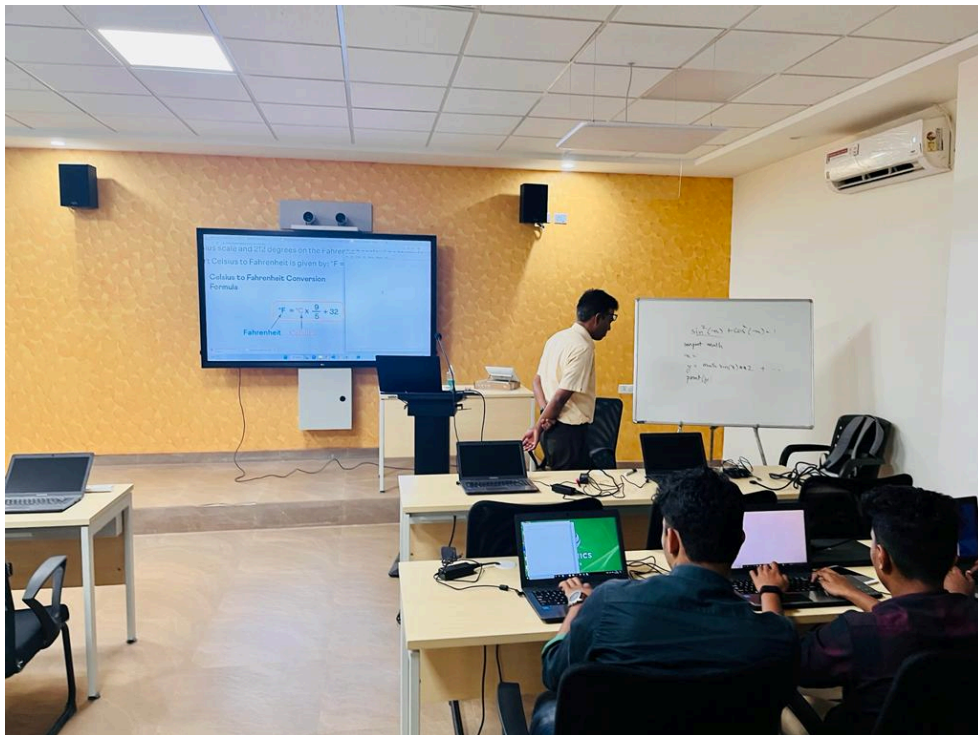
The use of DERs has the potential to increase renewable energy utilization, reduce dependence on fossil fuels, and improve grid flexibility.

Participant grid:

- Vaishakh Suresh
- PAVAN NAIR
- Rohit K
- Dr. Anitha R Ass...
- Dr. Meenakshy ...
- Lakshmparvat...
- Viswanatha Kar...
- Jimal Tomy
- You

**III Cell Programme on
Familiarisation of Python Programming Language, 8-9 December 2022**

by Dr. Arun Varghese, Dept. of ECE, RIT Kottayam
Faculty Coordinator: Prof. Muhammedali Shafeeque K





**III Cell Programme on
Effective technical communication and Group discussion, 23-24 June 2023**
By Mr. Mohammed Mohzin, Associate Senior Manager- Special Projects, BYJU'S, Bangalore
Faculty Coordinator: Prof. Muhammad Farooque E K



Electrical Maintenance and Research Club (EMRC)

Faculty Coordinator: Dr. Joseph Peter

Activities

- Students in society
- Organising various technical programmes
- Electrical maintenance workshops

Domestic wiring of a 500 sq feet house:

The members of Electrical Maintenance And Research Club (EMRC) of Dept. of Electrical Engineering (EEE), Government Engineering College Palakkad, successfully completed domestic wiring of a 500 sq feet house during April 2023 under the guidance and mentorship of Alumni mentors Vishnu P K, Vasudevan K N & Akhil Krishna K R, faculty and staff of EEE Dept. The mission was appreciated by Hon'ble MLA Sri. K. Premkumar and Kadambazhipuram ramapanchayath. Certificate was given to all coordinators and students **who participated in the same on MAY 15.**



Electrical maintenance workshops in department – March 2023



Electrical maintenance work in department new block - June 2023

With the assistance of EMRC, whiteboards and Projector fixation has been done in classrooms of the Electrical New block. Student Members: Rithin, Yatheesh, Jenil, Kiran of S4 EEE volunteered the activities under the guidance of technical staff Mr. Pradeep P.



Research & Development under TEQIP Funding

