Impetus-For a change...

JULY 2021

Department of Electronics and Communication

KCG College of Technology

Technical Magazine

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Department of Electronics and Communication

Vision of the Department

To become a Centre of excellence of global significance in Electronics and Communication engineering and producing competent professionals committed to nation building.

Mission of the Department

- Impart sound knowledge of Electronics and communication through innovative teaching learning process

- Establish laboratories equipped with modern state of art technology resources to facilitate research and consultancy

- Enhance the knowledge and skills of the faculty to incorporate the latest advancements

- Facilitate Industrial collaboration in socially responsive research activities

Program Educational Objectives

The graduates will

PEO 1 Have a successful career as technically competent, highly skilled professionals in Electronics and communication engineering and its related fields

PEO 2 Demonstrate technical competence to provide solutions for real time Electronics and Communication engineering problems

PEO3 Adopt technological challenges through skill upgradation in the relevant areas

PEO 4 Exhibit professionalism and ethical attitude in their work

Program Outcomes:

At the end of the program the student will be able to

PO1 - Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2 - Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3 - Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4 - Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5 - Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modelling to complex engineering activities with an understanding of the limitations.

PO6 - Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7 - Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8 - Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9 - Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10 - Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11 - Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12 - Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes

The graduates after the completion of B.E Electronics and Communications will be able to

- **PSO1:** Apply the knowledge of Basic sciences, Electronics and Communication engineering fundamentals and specialization for solving complex problems in Electronics and Communication systems.
- **PSO2:** Design suitable electronic circuits and communication systems using modern tools such as PSPICE, MATLAB / Simulink, Assemblers, Cadence and NS2
- **PSO3**: Practice the ethics of their profession with a sense of social responsibility.

This academic year was very successful for the department of ECE. The various activities of the department are consolidated as follows:

About the Department

The Department of Electronics and Communication Engineering was established in the year 1998. Electronics and Communication Engineering is both a core subject and a swiftly advancing field, with new ideas emerging every day. From mobile phones to remote sensing, there are exciting avenues to explore. With technology becoming all pervasive in everyday life, opportunities for electronic engineers are plenty.

The department of Electronics & Communication Engineering has faculty members with a blend of youth and experience. All the faculty members of the department are post graduates, some of them from eminent institutions like IIT. The department has qualified and accomplished doctorates in various domains of Electronics and Communication. Faculty members of this department have considerable academic, industrial and research experience.

Academic performance of students

Department: Electronics and Communication Engineering

Academic year	Semester	No. of students appeared	No. of students Passed in all subjects	Pass percentage
2019-2020 Even semester	Second Semester	69	69	100%
	Fourth Semester	68	68	100%
	Sixth Semester	92	92	100%
	Eighth Semester	87	85	97.7%
2020-2021 Odd semester	First Semester	-	-	-
	Third Semester	69	54	78.26%
	Fifth Semester	68	43	63.24%
	Seventh Semester	91	67	73.62%

Faculty Development Program

Paper publications

S.No	Author	Title	Journal	Date
1.	Dr. Deepa Jose	Autonomous Unmanned Ground Vehicle for	https://link.springer.com/chapter/10.1007/978-981-15-0146-	Sep 30, 2020
2.	Dr. Deepa Jose	FPGA Implementation of Haze Removal Technique Based on Dark Channel Prior	https://link.springer.com/chapter/10.1007/978-3-030-37218-7_71	Jan 7, 2021
3.	Dr.V. Thulasi Bai	Sentiment Analysis on Tweets for a Disease and Treatment Combination	https://link.springer.com/chapter/10.1007/978-3-030-37218-7_134#:~:text=The%20overall%20sentiment%20of%20the,eng	January 2021

			ine%20as%20a%20tr aining%20corpus.	
4.	Dr.V. Balaji	Computing Starts with Arrangement: Developing a Classification Tool ntegrating The Apriori Algorithm In The Association Rule of Data Mining	http://sersc.org/journ als/index.php/IJAST/ article/view/23680	July 2021
5.	Dr.V. Balaji	An Automated Framework to Segment and Classify Gliomas Using Efficient Segmentation and Classification	http://sersc.org/journ als/index.php/IJAST/ article/view/23742	April 2021
6.	Dr. Deepa Jose	Cipher Data Collection in FPGA for IOT Based Healthcare	http://sersc.org/journ als/index.php/IJAST/ article/view/23596/1 2248	April 2021
7.	Dr. Deepa Jose	Design of Mux-Dual Latch Circuit for Inter-Chip Communication	http://sersc.org/journ als/index.php/IJAST/ article/view/23677	April 2021
8.	Dr.V. Balaji	A Novel Approach to Detect the Level of Congestion in a Wireless Network	https://www.research gate.net/deref/http%3 A%2F%2Fdx.doi.org %2F10.1166%2Fjctn .2020.8425	April 2021
9.	T.Thomas Leonid	Cluster based Scheduling Approach for SDN with Edge Computing	http://sersc.org/journ als/index.php/IJAST/ article/view/23730	July 2021
10.	Dr. Deepa Jose	Design and implementation of hybrid integration of cognitive learning and chaotic countermeasures for side channel attacks	https://www.research gate.net/deref/http%3 A%2F%2Fdx.doi.org %2F10.1007%2Fs12 652-020-02030-x	Dec 2020
11.	Dr. Deepa Jose	Voice Control Robotic Arm Using Machine Learning	http://sersc.org/journ als/index.php/IJAST/ article/view/29121	July 2021

12.	Mr. Thomas Leonid	Statistical–model based voice activity identification for human-elephant conflict mitigation	https://link.springer.com/article/10.1007/s12652-020-02005-y?wt_mc=Internal.Event.1.SEM.ArticleAuthorOnlineFirst	July 2021
13.	Dr.V. Thulasi Bai	Ridge regression algorithm based non-invasive anaemia screening using conjunctiva images	10.1007/s12652-020-02618-3 (x-mol.com)	Oct 2020
14.	Dr.V. Thulasi Bai	Investigation of brain computer interface for	https://doi.org/10.1002/dac.4584	Oct 2020
15.	Dr. Clement Raj	Tuning the carrier density of TiO2 nanotube arrays by controlling the oxygen vacancies for improved areal capacitance in supercapacitor applications	https://www.sciencedirect.com/science/article/abs/pii/S0254058420303023	Oct 2020

Paper presentations

S.No	Presenter	Title	Conference	Organized by	Date
1.	Dr. V. Thulasi Bai Pelluru Sai Sushma, Shivani R, Sneka S	Domestic Water Management Using Wireless Sensor Network	ICIECS 2021,	RMK Engineering College	6th May 2021.
2.	Dr. Kavitha Balamurugan Aasha V Doddavula Bhargavi Haridha Vaishnavi V	IoT Based Smart Energy Meter and Theft detection	International Conference on Technological Advancement in Computer and Communication	Adhiparasakthi Engineering College, Melmaruvathur	31.03.21
3.	Dr. Kavitha Balamurugan	MEDIBITS	International Conference on Technological Advancement in	Adhiparasakthi Engineering College, Melmaruvathur	31.03.21

	Naveen D Vignesh E Yazhini A		Computer and Communication		
4.	Dr. Deepa Jose Arya Rajesh Jaisharmila P Jasvine Jeba M	Arrhythmia detection using AI	International Conference on Emergent Converging Technologies and Biomedical Systems (ETBS-2021) on	MHRD TEQIP III and Springer sponsored	29 April 2021
5.	Dr. Deepa Jose Pavithra M Sasipriya S Satya Venkata Santosh M	Detection of Crop Failure	International Conference on Emergent Converging Technologies and Biomedical Systems (ETBS-2021) on	MHRD TEQIP III and Springer sponsored	29 April 2021
6.	Dr. Jose Anand Ajin Jebes M Gowtham H Karthikeyan V Lingeshwaran R	Smart bottle cover for fluid monitoring	ICICSCNT 2021,	RMK Engineering College,	26-27 March 2021.
7.	Dr. Jose Anand Nivetha S Palgunan M Rupesh B	SEC-UR-BIKE	ICICSCNT 2021,	RMK Engineering College,	26-27 March 2021.
8.	Dr. K. Nirmala Devi Aishwarya Prakash S Dhivya P Divya J	Exam Assistant Robot	Data Science and Intelligent Information Technology	AICTE sponsored National Online Conference ,National Engineering College, KOVILPATTI	14 May2021
9.	Dr. K. Nirmala Devi Akshay Sreeram B	PIBOT - A Programmable Assistant	IEEE I2CACIS2021	IEEE Malaysian Section Control Systems Chapter (IEEE CSS	26th of June 2021

	Archita Arun Mohamed Abdul Kaiyoom H M			Malaysia Chapter)will be held on 26th of June 2021 as a Virtual Conference	
10.	Dr. V.Balaji Abhinaya V Anbarasi D Aparna P	Ground Water optimization	" ICMEET 2021 6th International Conference on Microelectronics, Electromagnetics and Telecommunications (Applied for the conference)	-	July 2021
11.	Dr. Clement Raj Gladwin Antony R Hariharan S Hariharan D	Solar Charging case for Mobile Phones	ICIECS 2021,	RMK Engineering College,	April 2021
12.	Dr. Clement Raj Sarveshwaran S Shri Vaidya Raghavan D Siddharth D	Solar Panel Cooling System	Submitted in GUCON 2021	_	22 October 2020
13.	Ms.B.Thyla Abishek M Bhuvanesh G Jacob Novan Nelson A	Smart stretcher and integrated medical intelligence systems for unconscious person	International Conference on Technological Advancement in Computer and Communication	Adhiparasakthi Engineering College, Melmaruvathur	31 March 2021
14.	Ms.B.Thyla Pavankumaar M Santhosh Kumar R Saravana Kumar M	Design and Simulation of Wearable on-body Antenna	International Conference on Technological Advancement in Computer and	Adhiparasakthi Engineering College, Melmaruvathur	31 March 2021

15.	Mr.Thomas Leonid Abishek A Annamalai P Bharanidharan R	Drone Based forest fire detection	ICICSCNT 2021	RMK Engineering College	26-27 March 2021.
16.	Mr.Thomas Leonid Pooja Rajasekharan Sandhya K Srinivas K M	Personal Bubble Maintenance using Smart Watch	ICICSCNT 2021	RMK Engineering College	26-27 March 2021.
17.	Mr. S. Sadasivam Rishwanth M S Sheik Mohammed A K Sivakami B	Meta Material Antenna	ETI4.0-Completed Presentation	Scopus Indexed journal	26-27 March 2021
18.	Ms. Jaraline Kirubavathy Jayashree B Malasri V Muga Hemalatha	Rainfall Prediction using Machine Learning Model	Conference on "Data Science and Intelligent Information Technology"	AICTE sponsored	15.05.2021
19.	Ms. Jaraline Kirubavathy Praveen Saravana Bhavan Pugalenthiran V	Voice Controlled Shopping Trolley Navigation with RFID Scanned and Live Billing using IoT	ICIECS 2021,	RMK Engineering College	6th May 2021.

Faculty as Resource persons

S.No.	Resource person	Role	Organized by	National / International	Date
1.	Dr.Nirmala devi K	Handled the session as a Resource Person in	AICTE	STTP	23.2.21

S.No		Role		Internal/External	Date
			the topic "Behavioral Modelling : Transport, Inertial Delay, Example programs" in VHDL		
2.	Dr. Kavitha Balamurugan	Judge	HITS Chennai	Internal	Jul 8 2021
		Judge	 KCG College of Technology	Internal	Oct 10,2020
3.	Dr. Deepa Jose	Resource Person	SRM University	External	22-04-21
		Chief Guest	Vardhaman College of Engineering, Hyderabad	External/International	29th and 30th April, 2021
		Session Chair	SSN College of Engineering and SSN Research Centre and Indian Science and Technology Association (Elavenil organization).	External/International	19th-21st May 2021
		Reviewer	IOS	International	November 18-21, 2020
4.	Dr. Jose Anand	Session Chair	Justice Basheer Ahmed Sayeed College for Women	International	15-16 April 2021
5.	Dr. V. Thulasi Bai, Ms. K. Jaraline Kirubavathy	Resource Person	University of Bari Aldo Moro, Bari, Itali	International	26 March 2020

Faculty has reviewers

S.No	Resource person	Role	Conference	Organized by	Date
1.	Dr V Thulasi Bai	Reviewer	7th International Conference on Advanced	· Sri Eshwar College of Engineering.	March 2021

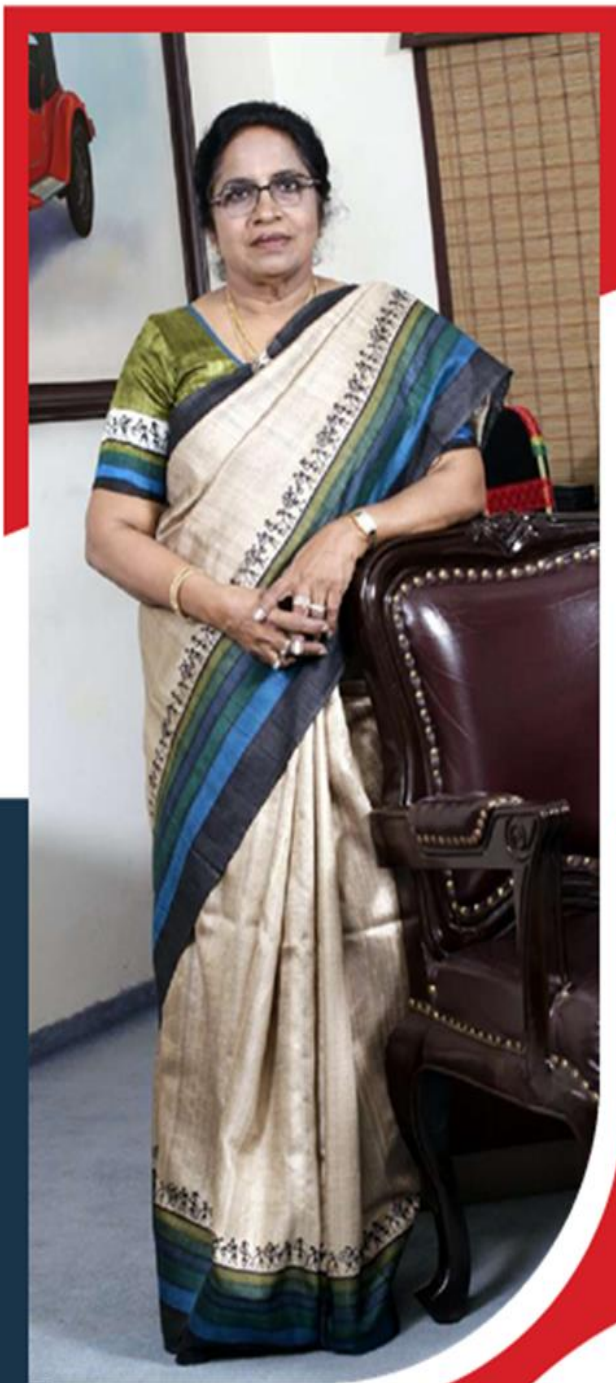|		Reviewer	IEEE International Conference on Signal Processing and Communication (ICSPC-2021)	Krunya Institute of Technology and Sciences, Coimbatore	March 2021
			Computing and Communication Systems		
2.	Dr. Kavitha Balamurugan	Reviewer	Virtual International Conference on Futuristic Communication and Network Technologies (VICFCNT 2020)	VIT University Chennai	Nov2020
3.	Sadasivam S	Reviewer	International conference on Industrial Instrumentation & Control	RCC Institute of Information Technology, Kolkata	May 2021

Achievements by students

S.No.	Achiever	Department / Year	Event	Date
1	Irene Michelle, Mohammed Ashik, Achyuth and Nithya T	ECE-III Year	shortlisted for the Regional Convention of on AICTE Vishwakarma Awards	April 8,2021.
2	Gowtham H, Lingeswaran R, Ajin and Karthikeyan	ECE-IV Year	Won best paper award for the Conference paper titled "IoT based smart Electrolytic Bottle Monitoring in the International Conference on Intelligent Computing, Smart Communication and Network Technologies -(ICICSCNT 2021)" held at RMK Engineering College	26th & 27th March 2021.
3	Tatavarty Rujula	ECE-III year	Won best paper Award in AICTE Sponsored Virtual Conference on Integration of Advanced Technologies for Industry 4.0(ICIATI)	12th & 13th June 2020.

4	Sneka, Sai Sushmitha, Shivani from Final Year B Sec	ECE-IV Year	Won the best paper award in the International conference on Innovations in Electronics and Communication Systems , Organized by RMK College of Engineering and Technology.	6th-7th May 2021
5	Aparna P, Abhinaya V, Anbarasi D, Hariharan S	ECE-IV Year	Won First prize in Project Expo 2020 at Hindustan Institute of Technology & Science	May 1,2021
6	Irene Michelle, Nithya T and Nandhine). The team	ECE-III Year	Mini Project titled " SMART SENTRY" won first prize under Assistive Technology for KCG Ideathon	May1,2021
7	Shobika, Sneha, Swetha.P	ECE-III Year	Mini Project titled CROP MAX IRRIGATION" Won first place in Ideathon under "Pervasive Computing"	May1,2021
8	Paarvathi.S, Preethi. S, Vinisha R	ECE-III Year	Mini Project titled " LET'S GO GREEN" won third prize under "Green Technology" for KCG Ideathon	May1,2021

Annual report

- Two PhD scholars completed under the guidance of Dr.V.Thulasi Bai in 2020-21
- Five Days FDP Titled "Artificial Intelligence and Geo Spatial Technology in Surveillance for Infectious Disease" got selected to sponsor Rs. 93,000/- applied by Dr. Thulasi Bai V., Dr. Kavitha Balamurugan and Ms. K. Jaraline Kirubavathy
- The research project carried out by by Dr. Deepa Jose and Dr. Nirmala Devi "Design and Implementation of VLSI Chip for Security Against Side Channel Attacks for IoT Systems" of Rs.15,56,955/- lakhs has been selected through AICTE Research Promotion Scheme.
- Four Series of AICTE Sponsored STTP on AI and IoT for Healthcare Innovations with sanctioned fund from AICTE for Rs. 4 Lakhs spanning four weeks has been successfully conducted and completed by Dr. Deepa Jose, Ms. Rammyaa. B, Mr. Thomas Leonid and Mr. V. Balaji. Total of 396 participants were there and the overall STTP was for 28 days.
- The Scheme AICTE Distinguished Chair Professor was sanctioned to KCG College of Technology under the co-ordination of Dr. Deepa Jose.

KCG
COLLEGE OF TECHNOLOGY
A unit of Hindustan Group of Institutions

WOMEN ICON OF INDIA

Dr. Elizabeth Verghese, Chairperson, Hindustan Group of Institutions, was honoured with the highly acclaimed "Women Icon of India" Award for her contribution to the field of Higher Education in the 45th Edition of Bridge, an Industry- Institute Interaction Meet. She was also one of the panellists in the discussion conducted on the topic "Augmenting Skills, Accelerating Growth"

CAMPUS
BUZZ

(June - December 2021)

TECHNICAL LECTURE MEETING

IETE Students Forum of the College has won the Best IETE Students Forum (ISF) Third Prize for outstanding and exemplary contribution towards conducting Technical Lecture Meetings, Workshops, Student Paper Presentations, National and International Conferences and Industrial Visits for the period 2019-2020. **Dr Jose Anand**, Associate Professor received the Best Coordinator Award.

Ms N Malthy (III IT), **Ms S Nithya Kalyani** (III IT) and **Ms Preethi** (III ECE) representing Team Beyond won the first place with a cash award of Rs 30,000 in INAE Youth Conclave 2021 for their project Digital Twin - Virtual Reality.

HOME FOR SPECIAL CHILDREN

Monthly provision worth Rs. 50,000 to Premavasam, a home for special children at Girugambakkam

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FIVE DAY IN-HOUSE FACULTY INDUCTION PROGRAMME

A Five Day In-house Faculty Induction Programme for New Recruits was organized from 2nd to 6th August 2021. The new recruits were introduced to lectures on topics related to teaching-learning, accreditation objectives, counseling techniques, team building and work life balance. **DTM Sarovelrajan,** Chief Strategy Officer at Ginkos India and TEDx, **Dr Renuka Devi,** Prof.& Head Dept. of Education NITTR, **Ms Ashisha Benjamin,** Psychological Counsellor, MrIssac Samala Gerarld, Chief HRM, **Dr Praveen Joe,** Associate Professor - CSE, **Dr Jaya** Associate Professor English, **Ms Revathy,** Counsellor, **Dr Amrutha,** Asso. Prof- Physics, **Dr.Nirmala Devi,** Asso. Prof- ECE, **Mr Sadhasivam A P** - ECE, **Mr Venkatramanan A P** - Aero, **Mr Prabhakar** A P-Aero were the resource persons.

EVENTS ORGANISED BY ECE

Department of ECE conducted ATAL Sponsored 5 Day Online Faculty Development Programme on **"Artificial Intelligence and Geospatial Technology in Surveillance for Infectious Disease"** from 23rd to 28th August 2021. 145 faculty from various colleges participated in the programme.

Department of ECE organised an AICTE Training and Learning (ATAL) Academy Sponsored Faculty Development Programme on Artificial Intelligence and Geospatial Technology in Surveillance for Infectious Disease" from 23rd to 27th Aug 2021.

SPORTS EVENTS

Celebrating Our Champions

Gnana Varshini

I Year, B.E. ECE

WINNER

Anna University
Inter Zonal Tae Kwan Do Championship