Industry Driven Institute
ABOUT THE DEPARTMENT

The department of Electronics and Communication Engineering came into existence in the year 2009. It offers a UG programme, B.E. in Electronics and Communication Engineering and a PG programme, M.E. in VLSI Design. The department has a team of committed faculty members who are well qualified and are backed by rich teaching/research/industry experience. The department addresses the needs of growing aspirants and provides additional opportunities to younger generation to meet industrial scenario. The department has published 8 patents and filled 2 patents. The department has 10 curriculum based laboratories equipped with sophisticated software’s, Center of excellence in embedded systems and IoT, Design Spark PCB innovation lab sponsored by Telos Technologies and also associated with NVIDIA Deep Learning Institute (DLI) platform to train members in the field of Artificial Intelligence. The department has signed 4 MoU with leading industries.

VISION

To be a department of repute for learning and research with state-of-the-art facilities to enable the students to succeed in globally competitive environment.

MISSION

M1: To impart knowledge and skill based education with competent faculty striving for academic excellence.

M2: To instill research centers in the field, that industry needs, by collaborating with organizations of repute.

M3: To provide ethical and value based education by promoting activities addressing the societal needs and facilitates lifelong learning.

PROGRAMME EDUCATIONAL OBJECTIVES

PEO1: Graduates will possess an adequate knowledge and have successful technical career in Electronics and Communication Engineering or related fields.

PEO2: Graduates will possess leadership qualities and demonstrate professional and ethical values.

PEO3: Graduates will continue their life-long professional development through higher education or entrepreneurship.

PROGRAMME OUTCOMES

Engineering Graduates will be able to:

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

PO2: Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
PO3: Design/development of solutions: 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: Conduct investigations of complex problems: 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: Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6: The engineer and society: 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: Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

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

PO9: Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10: Communication: 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: Project management and finance: 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: Life-long learning: 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**

PSO 1: Graduates will be equipped with microcontroller based system design skills to work as design and verification engineers in the area of Embedded Systems Design.

PSO 2: Graduates will be able to apply engineering knowledge for the design and implementation of projects pertaining to VLSI Design, Image processing and Communication.
MESSAGE FROM HOD’S DESK

I am very happy that our Electronics & Communication Engineering department is releasing April- June issue of department letter. It is a platform to disseminate the activities performed by the students and faculty members of the department to all the members. The major strength of the department is a team of well qualified and dedicated faculties who are continuously supporting the students for their academic excellence. It is the time for us to work hard for getting good results in exams. We have arranged several industrial visits and workshops for our 2nd, 3rd and 4th year students in this semester to meet out the industry needs. Our post graduate program is also going on successfully. We have started an exclusive Project Innovation lab for UG students, the students are identified to develop a project to compete in outside events. The department has already submitted the compliance report to the NBA for accreditation. I hope the NBA committee will be visiting our department in the upcoming year. So let us work together for the achievement of this goal. I take this opportunity to congratulate our staff editors Mr.V.Chandran AP/ECE and Ms.R.Ashwatha AP/ECE for their great effort to make this newsletter as a reality. Also I invite the readers of ‘ECE department newsletter’ for their contribution and suggestions for the forthcoming issues.

PROGRAMS ORGANISED

1) The department of ECE organized a two days hands on workshop on “Deep Learning for Computer Vision Using NVIDIA DIGITS” on 23.05.2019 and 24.05.2019. Dr.S.Balamurugan, Head (R&D), Quants CS & IS was the chief guest for the program. The amount of Rs.7,000 has been generated through this program.

2) A live interactive Face-To-Face session on “College to Corporate Program” was organized by the department of ECE in association with IIT Bombay remote center on 02-03-2019. Dr.S.V.D.Nageswara Rao, Professor, School Of Management, IITBombay delivered the speech.

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3) A workshop on “Accelerating Teaching & Research with Matlab” was organized by the department of ECE on 28.03.2019. The chief guest for the program was Mr. Tabrez Khan, senior application engineer, Mathworks India.

4) An alumni guest lecture on “Net4things-IoT Solutions for Automotive Industry” was organized by the department of ECE on 02.03.2019. The chief guest for the program was Mr. S. Sarath, senior embedded developer, UST Global, Trivandrum.

5) An alumni interaction on “Insight on Opportunities in Industries” was organized by the department of ECE on 15.03.2019. The chief guest for the program was Mr. S. Nirmal Kumar, technical consultant- L & T Info Tech Mumbai.

6) The department of ECE has organized an intra-college technical symposium “Electrovedha”. The chief guest for the program was Mr. Aravind Govindraj, Regional Head, UTL Technologies, Coimbatore on 21.03.2019.

7) The Department of ECE has organized a summer internship program on “VLSI and Embedded Design” from 15th to 24th June, 2019. Five students from Sanskriti School Of Engineering, Puttaparthi has undergone the internship. An amount of Rs. 25,000 has been generated through this internship program.

FACULTY PARTICIPATION

1) Mr. M. Manikandan attended a five days Quality Improvement Program on “Hands-on approach to semiconductor device physics education”, organized by IIT-Bombay from May 7th to 11th, 2019. He received a certificate from Prof. Arora, Professor Electrical Department, IIT-Bombay.


3) Dr. K. Kalirajan, Dr. N. Rajesh Kumar, Dr. D. Venugopal, Mr. K. Saravanan, Mr. M. Manikandan, and Ms. D. Sudarvizhi attended two days workshop on “Deep Learning and Computer vision using NVIDIA digits”, organized by Department of ECE at KPR Institute of Engineering and Technology, Coimbatore from 23rd to 24th May, 2019.
4) Dr.D.Venugopal attended an International summit titled as “AI everything”, organized by Ministry of Artificial Intelligence, Dubai from 30-4-2019 to 1-5-2019.

5) Dr.M.G.Sumithra, Mr.K.Siddharthraju, Mr.S.Finney Daniel and Mr.V.Chandran attended one day Matlab expo 2019 organized by Mathworks, Bangalore at Hotel Radisson Blu on 25th March 2019.

6) Ms.R.Dhivyadevi, Mr.T.Shanmugaraja and Ms.M.Supriya attended a 5 days Faculty Development Program on “VLSI Design” at Zerlon solution, Coimbatore from 22nd to 26th, April 2019.

7) Dr.N.Rajesh Kumar, Mr.G.K.JakirHussain and Ms.R.Mohanabarathy attended one day seminar on “Tektronix Measurement” organized by Sinetech Technologies, Coimbatore on 11-05-2019.

8) Dr.B.Baishankarand Mr.M.Santhanaraj attended one week Faculty Development Program on "Bio inspired algorithms for intelligent signal processing" organized by Electronics and ICT academy of NIT Warangal at Vardhaman College of Engineering, Hyderabad from April 24th to 30th, 2019.

9) Dr.M.G.Sumithra, Professor/ Head of ECE has attended “Intel AI” summit organized by Analytics India Magazine at Bangalore on 8th June 2019 and interacted with Ms.KavithaTharoor, Business Managing Director, Intel Corporation for setting up center of excellence for Artificial Intelligence in KPRIET, Coimbatore.

10) Mr.V.Chandran, AP/ECE has attended a “Google I/O 2019 Extended” program by GDG Coimbatore, at Government College of Technology, Coimbatore on 08-06-2019.

11) Dr.C.Karthikeyini, Dr.D.Venugopal and Dr.K.Kalirajan have undergone three days internship program on “GPON, Image encryption, PCB, IoT and Switching” at ITI Limited, Bangalore from 17.06.2019 to 19.06.2019.

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GUEST LECTURE DELIVERED

1) Mr.V.Chandran, Assistant Professor/ECE delivered a Guest lecture on “Deep Learning and its Applications” organized by Department of Electronics and Communication Engineering at Government College of Technology, Coimbatore on March 5th, 2019.
2) Dr. M.G. Sumithra delivered a guest lecture at five days summer school program on “Research in Artificial Intelligence and Deep Learning” organized by department of CSE & MIDRAC at Hindustan Institute of Technology and Science, Coimbatore on 11th June 2019.

3) Mr. V. Chandran, AP/ECE, delivered a guest lecture on “Emerging Trends, Technologies & applications” at KPR Institute of Engineering and Technology, Coimbatore on March 9th 2019.

4) Mr. V. Chandran delivered a guest lecture at five days summer school program on “Research in Artificial Intelligence and Deep Learning” organized by department of CSE & MIDRAC at Hindustan Institute of Technology and Science, Chennai from 11th to 15th, June 2019. (SIG-AIRAG)
5) Dr. M.G. Sumithra delivered a guest lecture on “Fundamentals of Deep Learning and Computer Vision”, organized by Department of ECE at KPR institute of Engineering and Technology, Coimbatore on 23rd May 2019. (SIG-AIRAG)

6) Mr. V. Chandran delivered a guest lecture on “Deep Learning using NVIDIA DIGITS”, organized by department of ECE at KPR institute of Engineering and Technology, Coimbatore on 24th May 2019. (SIG-AIRAG)

**FACULTY ACHIEVEMENTS**

1) Mr. V. Chandran, A/P, Department of ECE, has Secured 3rd Position in “JIO Artificial Intelligence” worldwide Competition conducted by Code Gladiators 2019.

2) Dr. M.G. Sumithra, Professor and Head of ECE, has secured 5th Position in “JIO Artificial Intelligence” worldwide Competition conducted by Code Gladiators 2019.

3) Dr. C. Karthikeyini, Professor, has secured 22nd Position in “JIO Artificial Intelligence” worldwide Competition conducted by Code Gladiators 2019.
4) Dr. K. Kalirajan, Associate Professor, has secured 21st Position in “JIO Artificial Intelligence” worldwide Competition conducted by Code Gladiators 2019.

**FACULTY PUBLICATIONS**


FACULTY CERTIFICATION COURSE

1) Mr. V. Chandran Assistant Professor/ ECE, has completed certification course on “Python101 for Data Science” and “Machine Learning with python” offered by IBM & Cognitive class.

CONSULTANCY

1) As part of the consultancy under knowledge sharing program the NVIDIA DLI certified instructors of The Artificial Intelligence Real Time Application Group (AIRAG) have provided hands on training on “Research in Artificial Intelligence and Deep Learning” organized by Hindustan Institute of Technology and Sciences (HITS), Department of CSE & Machine Intelligence and Data Analysis Research Centre (MIDARC) in association with NVIDIA during June 11-15, 2019 and generated Rs.30,000.(SIG-AIRAG)

STUDENT PARTICIPATION IN INTERNSHIP

237 students from II, III and IV year students of ECE Department has undergone summer internship program during the month of May-June, 2019 in different industrial sectors.

INDUSTRY COLLABORATION

1) Artificial Intelligence group for Real time Applications Group (AIRAG) has been granted NVIDIA Deep Learning Institute Certified Instructors from NVIDIA.DLI Ambassadors are a selected group of DLI Certified Instructors committed to teach DLI workshops and host DLI lab meet ups at universities, academic conferences, and events to attendees (students, academicians, and researchers only). We will offer training opportunities for research staff and faculty members to catch up with the latest computing technologies with the support from NVIDIA.

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2) Department of Electronics and Communication has associated with UTL- Technologies Ltd. Bangalore to establish CompTIA Authorized academy in our institute premises to provide CompTIA A+, N+ certifications for the students to enhance their skills and career opportunity on 06-04-2019.

3) Dr.M.G.Sumithra Prof/Head of ECE, Mr.V.Chandran AP/ECE from KPR Institute of Engineering and Technology, Coimbatore has signed an agreement for UIPath academic alliance program to empower the younger generation students and experience professionals to shape the future as Global RPA Knowledge eco system. UIPath academic alliance program will offer Robotic Process automation Design and Development course for every semester either as an elective or value added courses on June 3, 2019. (SIG-AIRAG)
Artificial Intelligence once it is a fiction but it is now a reality. It is a part of new frontier in the medical and health care industry. Medical AI is so hot to diagnose cancer, tuberculosis, skin, eyes, stroke and other conditions; it is more precise, accurate, faster and cheaper. The availability of AI stethoscope called the is far better to amplify, filter and record sounds, analyze using Smartphone application. AI can also be used to diagnose reason for blindness, diabetes related eye diseases in earlier stages. 3D bio printing another milestone in medical industry to print tissues and organs to help research drugs and pills. Genome editing or DNA Sequencing is an emerging technology where we reprogram our body dynamics in DNA to eliminate autism from human genome. There are many Indian startups in the AI based health care namely Lybrate, mFine, artelus, chironx, livehealth, onlidoc and qure.ai. As per the statistics 80% of doctors will be replaced by machines. But patients need human touch, emotions and feelings. Human sympathy, perception and emotion are different from that of machines. So at this point doctors definitely going to stay.