



KPR Institute of Engineering
and Technology

(Autonomous)

Avinashi Road, Arasur, Coimbatore - 641 407

Department of Electronics and Communication Engineering
(Accredited by NBA)

NEWSLETTER- AUGUST 2023 ISSUE



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➤ **Vision**

To be a centre of excellence for education, research and development in the field of Electronics and Communication Engineering to meet the growing needs of the society.

➤ **Mission**

- Develop competencies in emerging technologies through skill based education collaborating with industries of repute.
- Provide conducive environment for research and innovation to cater the needs of the society.
- Inculcate professionalism, ethical values and lifelong learning.

➤ **Programme Educational Objectives**

Graduates of BE-ECE program, after four years of graduation, will

- **PEO 1:** Apply principles of Electronics and Communication Engineering to provide solutions to the emerging problems in the society.
- **PEO 2:** Embrace technological challenges through skill upgradation or higher education or research.
- **PEO 3:** Exhibit leadership qualities with professional and ethical values.

EVENT ORGANIZED

- Department of Electronics and Communication Engineering in association with office of alumni relations organizes alumni lecture series - 1 on 12.08.2023. Resource Person: Mr. R. Gokul (2017-2021 batch) Tata Technologies, Coimbatore. Topic: Bridge to Successful Careers in core companies Time: 09:00am Venue: ECE Classroom The session started by providing an insight about some key statistics concerned with the IT industry and major technology trends. Main areas which were emphasized upon include - advanced analytics, IoT, AI, robotics. Furthermore, the students learned about the vast number of careers opportunities in these fields. A few of them are: data scientist, data analyst, cloud architect, full stack developer. The key topics discussed by him were as follows: Artificial intelligence, machine learning and deep learning Foundation and future of Internet of Things Robotics process automation Career opportunities, skill set required and responsibilities associated with them. He also delivered knowledge on information, skills, and experience to identify career options. He gave substantial information about the job opportunities and salary packages. He also stressed upon the difference between being qualified and working hard. He also advised participants to set their own goals for success. Students were interactive throughout the entire session.



KPR Institute of
Engineering and
Technology
Learn Beyond (Autonomous, NAAC "A")

DEPARTMENT OF
ECE

Mr. Gokul R
(2017-2021)
Embedded Hardware Engineer
Tata Technologies Ltd
Coimbatore



**ALUMNI LECTURE
SERIES - 1**

**BRIDGE TO SUCCESSFUL
CAREERS**



12.08.2023



09.00 AM



III ECE B

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- A guest lecture on 'Design and Debugging of Embedded Systems' was held, featuring the expertise of Hareesh Janakiraman, a distinguished Microcontroller Applications Engineer from Texas Instruments, USA. This enlightening event was coordinated by the Electronics and Communication Engineering (ECE), Electrical and Electronics Engineering (EEE), and the KPR International Center (KIC). Mr. Janakiraman delivered an extensive discourse, sharing profound insights into the realms of microprocessors, microcontrollers, digital signal processing, and embedded systems. He meticulously elucidated the essential steps to prepare for the industry's demands, emphasizing the significance of hands-on experience and a robust skill set. Leveraging his own professional journey, he candidly discussed rectifying errors and provided invaluable lessons on learning from mistakes. One of the lecture's highlights was Mr. Janakiraman's comprehensive explanation of oscilloscope functionality. Through real-world applications and interactive discussions, he adeptly demystified the workings of this critical tool, enhancing the attendees' understanding of its role in embedded systems development. Mr. Janakiraman's pedagogical approach was captivating. His integration of practical examples drawn from the classroom, coupled with active engagement with students, fostered an exceptionally immersive learning experience. By fostering dialogue and involving the students, he not only delivered knowledge but also ignited their curiosity and enthusiasm. In conclusion, the guest lecture by Hareesh Janakiraman was an enlightening and engaging event that provided an insightful exploration of embedded systems design and debugging. Attendees were enriched with valuable insights, actionable advice, and a deeper appreciation for the intricacies of the field, ensuring they are well-prepared to meet the industry's evolving demands.

The poster is divided into two main sections. The left section is white with green and blue text, and the right section is green with white text. At the top left is the KPR Institute of Engineering and Technology logo with the tagline 'Learn Beyond.' and '(Autonomous, NAAC 'A')'. Below this, the text reads 'GUEST LECTURE on DESIGN AND DEBUGGING OF EMBEDDED SYSTEMS'. At the bottom left, a blue rounded rectangle contains a calendar icon, the date '12.08.2023', the time '10.00 AM', and a location pin icon with 'Thanam Hall'. At the top right, it says 'DEPARTMENTS OF ECE, EEE & KIC'. Below this, it introduces 'Mr. Hareesh Janakiraman, Microcontroller Applications Engineer, Texas Instruments, USA' with a circular portrait of him. At the bottom, there are social media links 'kpriet.edu.in' and 'KPRIETonline', and logos for 'G20' and 'SOG'.

KPR Institute of Engineering and Technology
Learn Beyond. (Autonomous, NAAC 'A')

GUEST LECTURE
on
DESIGN AND DEBUGGING OF EMBEDDED SYSTEMS

12.08.2023
10.00 AM
Thanam Hall

DEPARTMENTS OF
ECE, EEE & KIC

Mr. Hareesh Janakiraman
Microcontroller Applications
Engineer, Texas Instruments,
USA

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G20 SOG

- Software-defined radio (SDR) is a radio communication system where components that have been traditionally implemented in analog hardware are instead implemented by means of software on a personal computer or embedded system. While the concept of SDR is not new, the rapidly evolving capabilities of digital electronics render practical many processes which were once only theoretically possible. A basic SDR system may consist of a personal computer equipped with a sound card, or other analog-to-digital converter, preceded by some form of RF front end. Significant amounts of signal processing are handed over to the general-purpose processor, rather than being done in special-purpose hardware (electronic circuits). Such a design produces a radio which can receive and transmit widely different radio protocols (sometimes referred to as waveforms) based solely on the software used. Software radios have significant utility for the military and cell phone services, both of which must serve a wide variety of changing radio protocols in real time. In the long term, software-defined radios are expected by proponents like the Wireless Innovation Forum to become the dominant technology in radio communications. SDRs, along with software defined antennas are the enablers of the cognitive radio. This course is handled by R. Balamuruges, CEO, Silicon Systems and Mr S Raja, Product Development Manager, Silicon Systems, Kalapatti, Coimbatore-641 048. The event started at 8.45am and ends at 4.15pm. Students were very much interactive throughout the session and completed the project assigned to them. Students are asked to prepare their report and submit for assessment.

The poster is for a 'ONE CREDIT COURSE' titled 'Software Defined Radio'. It is organized by the 'DEPARTMENT OF ECE' at 'KPR Institute of Engineering and Technology', which is an 'Autonomous, NAAC "A"' institution. The course is led by two speakers: R. Balamuruges, CEO of Silicon Systems, and Mr S Raja, Product Development Manager of Silicon Systems, both based in Kalapatti, Coimbatore-641 048. The topic is 'Software Defined Radio'. The course runs from 08.45 AM to 4.15 PM on 25.08.2023 to 26.08.2023, at the 'Multiband Communication Lab'. Co-ordinators are Dr.V.Seethalakshmi and Dr.S.Nithya. The poster includes the KPR Institute logo, social media icons, and the website 'kpriet.edu.in'.

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DEPARTMENT OF ECE

ONE CREDIT COURSE

R. Balamuruges
CEO,
Silicon Systems,
Kalapatti,
Coimbatore-641 048

Mr S Raja
Product Development Manager
Silicon Systems,
Kalapatti,
Coimbatore-641 048

Topic: Software Defined Radio

08.45 AM - 4.15 PM 25.08.2023 - 26.08.2023

Multiband Communication Lab

Co ordinators Dr.V.Seethalakshmi
Dr.S.Nithya

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- The Session started around 2.00 pm on 26.08.2023. In the inaugural speech, Prof.S.Satheesh Kumar thanked and welcomed all the dignitaries, experts, chief guest,, faculty members and students. More than 75 participants were present at this event. Mr.S.Satheesh Kumar- Event Coordinator invited the guest and introduced him to the audience. Mr.Ashwin highlighted the fact that students must advance their skills in customer development, customer validation, competitive analysis, and iteration while utilizing design thinking and process tools to evaluate in real-world problems and projects. He also addressed the problems faced by Startups and how students should have a unique goal when facing challenges and hurdles to become entrepreneurs.Students were provided insights on identifying problem statements, brainstorming ideas, exposure to prototyping tools and how to prepare a pitch deck and present before an audience. The event aimed to inspire students and aspiring Startups to take up entrepreneurship by fostering innovation and entrepreneurship in higher educational institutes. Mr.Ashwin also shared his entrepreneurial journey, how to find pain points to build a Startup and the mindset required to be an entrepreneur. Students of various department actively participated in

KPR Institute of Engineering and Technology
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INSTITUTION'S INNOVATION COUNCIL
(Ministry of HRD Initiatives)

Centre for Innovation Incubation and Entrepreneurship Development (CIED)
in association with Department of ECE

GUEST LECTURE ON

PROTOTYPE VALIDATION - CONVERTING INNOVATION INTO A STARTUP

Resource Person
Er.R.Ashwin Shriram
CEO, Orgins, Coimbatore

26.08.2023
09.00 AM
Thanam Hall

All are cordially invited

Convenors
Dr. K. Ravi Kumar /Head - CIED
Dr. J. Indra /Head - ECE

Coordinators
Prof. S. Satheesh Kumar /ECE
Prof. M.D. Saranya /ECE

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G20 **SDG**

- Department of ECE Students' Association SPARTRANZ organized TECH TALK. The event was held on August 26,2023 10.00 AM at III ECE A classroom. More than 15+ topics are presented by the participants to the audience and judges. All the participants are given recent trending topics and technologies, they were given few minutes to prepare themselves. The event was conducted at department level with roughly 35+ participants . Dr.J.Prasad Assistant Professor(Sl.G) was present

during this event and acted as the judge of this event. The instructions were given clearly to the participants by Mr.Dharsan of III ECE . The topics were shuffled and chosen by the participants . The main aspect of the event is to give more exposure to the technologies and recent trends. Mr.Dhananjayan of III ECE A and Ms.Niveditha of III ECE B won the first prize and second prize respectively. They presented on the topics like Semiconductors and the Industry, Smart Systems. Other participants presented on the topics like 5G, Industrial Revolution 4.0, Space technology, artificial intelligence, National Educational Policy .



FACULTY AS RESOURCE PERSON

- Dr. Jaikumar acted as resource person for a seminar titled "How to become an entrepreneur" on 25.08.2023 organized by Department of Electronics and Communication Engineering, RVS college of Engineering and Technology.



FACULTY PUBLICATIONS

- Anto Mamman S, & **Muralidharan J.** (2023). Performance enhancement counter with minimal clock period. E3S Web of Conferences ,399, 01005 . <https://doi.org/10.1051/e3sconf/202339901005>
- **Muralidharan J**, Sindhuja L.P, Srinivasan S, Sunshetha K.V, & Surendhran P. (1969). Modeling the traffic-safety system. Accident Analysis & Prevention, 1(2), 211. [https://doi.org/10.1016/0001-4575\(69\)90123-7](https://doi.org/10.1016/0001-4575(69)90123-7) .
- **Finney Daniel Shadrach**, Gunavathi Kandasamy, S. Neelakandan, & T.Bheema Lingaiah. (2023). Optimal transfer learning based nutrient deficiency classification model in Ridge Gourd (luffa acutangula). Scientific Reports, 13(1). <https://doi.org/10.1038/s41598-023-41120-6>
- Vasimbabu M, **Gurumoorthy K.B.**, Allwin Devaraj S (2023). A Mutual Energy Harvesting -induced task offloading method for wireless sensor networks coupled with internet of things. Adhoc-Sensor Wireless networks, 57, PP: 91-114. <https://doi.org/10.32908/ashwn.v.57.9997>
- S. Lakshmi Narayanan, M. Kasiselvanathan, **K.B. Gurumoorthy**, & V. Kiruthika. (2023). Particle swarm optimization based Artificial Neural Network (PSO-ann) model for effective K-barrier count intrusion detection system in WSN. Measurement: Sensors, 29, 100875. <https://doi.org/10.1016/j.measen.2023.100875>

- **S M Ramesh** ; S Nithya ; V. V. Teresa ; V Uma Maheswari ; M A Raja ; S Krishnakumar, " Analysis of ECG Noise Cancellation and Abnormality Classification using Various Adaptive Algorithms", 2023 International Conference on Applied Intelligence and Sustainable Computing (ICAISC),Dharwad, Karnataka, IEEE Xplore, 09 August 2023, DOI: 10.1109/ICAISC58445.2023.10199232
- K. Murugan ; Angeline Felicia ; B Gomathy ; P.T. Saravanakumar ; **S M Ramesh** ; E. Sakthivel," A Credit Card Fraud Identification Technique Using Support Vector Machine",2023 International Conference on Applied Intelligence and Sustainable Computing (ICAISC), Dharwad, Karnataka, IEEE Xplore, 09 August 2023,DOI: 10.1109/ICAISC58445.2023.10199684.
- **M. Supriya; M. Kathirvelu**; “Certain Investigation on Adders and Multipliers for Different Applications” , 2023 4th International Conference on Electronics and Sustainable Communication Systems (ICESC), IEEE Xplore, 01 August 2023, DOI: 10.1109/ICESC57686.2023.10193736
- **M. Kathirvelu**, S. Keerthana, V. Keerthana, S. Lakshitha and S. Manikandan, "Early Detection of Sickel Cell Anaemia Among Tribal Inhabitants," 2023 8th International Conference on Communication and Electronics Systems (ICCES), Coimbatore, India, 2023, pp. 1549-1554, doi: 10.1109/ICCES57224.2023.10192843

FACULTY PARTICIPATION

Name of the Faculty	Title of FDP/STTP/OFPD/Conference/Online Course	Organization Name	Start Date	End Date
Mr.D.Ram Nivas	Design of High-Speed Adder with three operands for Image Blending Applications	Kumaraguru college of Technology	8/7/2023	8/7/2023
Dr.J.Prasad	Next-Gen Solutions: Innovations In Cybersecurity Awareness	QUVAE Research and Publications	8/11/2023	8/11/2023
Dr.J.Muralidharan	Design & Simulate CMOS Basic Gates & Flip Flops	KPR Institute of Engineering and Technology & Entuple Technologies Pvt. Ltd	7/28/2023	7/28/2023
Dr.J.Muralidharan	VLSI to System Design Silicon to End Application Approach	AICTE - ARM EDUCATION & ST ELECTRONICS	7/31/2023	8/4/2023
Mr.D.Ram Nivas	One-Day workshop on Design & Simulate	Entuple and KPR Institute of	7/28/2023	7/28/2023

	CMOS Basic Gates & Flip Flops using Cadence flow	Engineering and Technology		
Ms.MD.Saranya	Scientific Writing & Publishing	Sarala Birla University, Ranchi - Jharkhand	7/31/2023	8/4/2023
Dr.K.S.Tamilselvan	FDP on "Contemporary and Innovative Teaching Pedagogy and Essential Skills for Educators	Maharishi University of Information Technology, Lucknow	7/24/2023	7/31/2023
Dr.J.Prasad	VLSI System Design: Silicon to End Application Approach	AICTE, ARM Education and ST Microelectronics	7/31/2023	8/4/2023
Dr. M. Kathirvelu	VLSI to System Design	AICTE- ARM education	7/31/2023	8/4/2023
Dr.S.M.Ramesh	Recent Trends in Smart Energy Market (AI/ML, Blockchain applications)	National Institute of Technology Warangal – 506 004, Telangana state	7/3/2023	7/7/2023

STUDENT PARTICIPATION

S.No	Event Name	No of students participated
1	Online course	2
2	workshop	Nil
3	Contest (Quiz, Coding Contest, club events, etc.)	10
4	Paper presentation	Nil
5	Internship	Nil
6	Project Presentation	1
7	NSS, YRC activities	Nil

STUDENT ACHIEVEMENT

S.No	Name of the Student	Year	Title of the Event	Organized by (Name of College and Club)	Prize - Merit Position
1.	Chiranjeevi DK	III ECE A	N4 NAT EXAM (Japanese Language Proficiency)	ABK AOTS	Passed
2.	Balaji P	III ECE A	State Level Karate Championship	Traditional And Sports Karate Association - Tamilnadu	Gold Medal

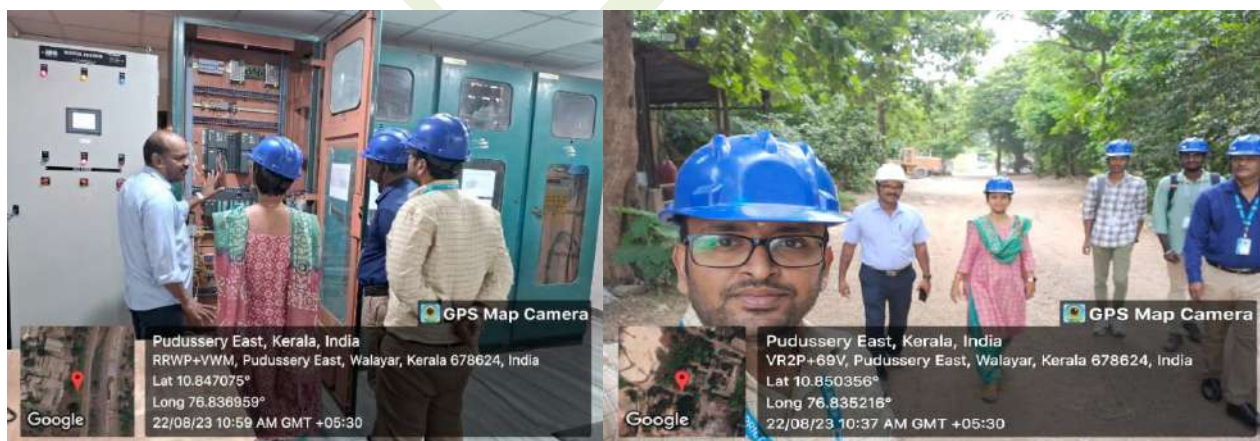
PLACEMENT ACTIVITIES

S.No	Name of the Student	Name of the Company
1	Ramakrishnan R	Kone Elevators

IIPC ACTIVITIES - August 2023

INDUSTRY VISITS

- Dr.J.Indra, Dr.K.S.Tamilselvan and Mr.D.Ram Nivas along with two second year ECE students visited M/s.Malabar Cements, Walayar on 22.08.2023



- Dr.J.Indra, Dr.K.S.Tamilselvan and Mr.D.Ram Nivas visited IIT, Palakkad on 22.08.2023 and met Dr.Sabarimalai Manikandan, Associate Professor, Faculty of Electical Engineering and discussed about various collaborative research activities and consultancy projects.



- Dr.K.S.Tamilselvan visited M/s.Sysco Systems, Coimbatore on 08.08.2023 and discussed about student internship.

