



SAHYADRI
COLLEGE OF ENGINEERING & MANAGEMENT

ELECTRONICS & COMMUNICATION ENGINEERING

DEPARTMENT NEWSLETTER ELECTRUM-2K19

**ACADEMIC YEAR
2019-20**

HOD's Message

I am glad to present the second edition of our department newsletter ELECTRUM. The main objective of the newsletter is carrying forward our agenda and sharing information about the department. Newsletter serves as a platform to share the various scientific, cultural, technical and sport activities happening in the department.

The newsletter features the various achievements and initiatives by the students and the faculty. It also features the various events and activities of Association of Electronics and Communication Engineering Students (AEnCES).

We feel glad to acknowledge the kind support & encouragement of all those who contributed directly or indirectly to bring out this newsletter.

VISION:

To establish the department as a center of excellence in creating globally competitive, socially responsible engineers to excel in the field of Electronics and Communication by transforming future challenges to sustainable opportunities.

Editorial Board

Dr. Ashwath Rao
HOD, ECE Department

Mr. Sachin C N Shetty
Assistant Professor

Ms. Deepthi
7th SEMESTER

Mr. Prathwik R Amin
7th SEMESTER

Ms. Amrutha Wagle
5th SEMESTER

Ms. Sameeksha Rai
5th SEMESTER

Mr. Rahul N L
3rd SEMESTER

Mr. Naveen Kulai
3rd SEMESTER

MISSION:

- Inculcating a distinctive teaching learning process to provide extensive knowledge of principles to provide solutions to challenges in the relevant domain.
- Nurturing the growth of every individual through inventive, dynamic and conducive learning environment using modern education techniques and industry oriented pedagogy.
- Imparting leadership qualities with ethical values among students to cater societal and environmental needs.

PROGRAM EDUCATIONAL OBJECTIVES:

- Applying the concepts of mathematics, science and engineering for solving problems relevant to environment and society.
- Inculcating lifelong learning skills to adapt to dynamic global economics and technological trends.
- Inducing ethics, communication skills and leadership qualities with the application of innovative tools and techniques for the betterment of mankind.

PROGRAM SPECIFIC OUTCOME:

- Exhibit competency in Embedded system and VLSI Design.
- Capability to comprehend the technological advancement in Signal processing and Communication.

Faculty Professional Development Activities Certification Courses

NPTEL Certification

The National Programme on Technology Enhanced Learning (NPTEL) was initiated by seven Indian Institutes of Technology (Bombay, Delhi, Kanpur, Kharagpur, Madras, Guwahati and Roorkee) along with the Indian Institute of Science, Bengaluru, in various core disciplines. NPTEL began offering open online courses along with certificates from the IITs/IISc for those who completed the courses successfully. The objective of enabling faculty and students obtain certificates for courses is to make faculty deliver effectively the course content and make students employable in the industry or pursue a suitable higher education programme.

<u>Name of the faculty</u>	<u>Courses Completed</u>
Mr. Praveen Kumar M Ms. Shikha Rai	Accreditation and Outcome Based Learning

One day workshop on Intellectual Property Rights: Significance in Business and Research



Sahyadri College of Engineering & Management, Mangaluru, in association with Visvesvaraya Trade Promotion Centre (VTPC), Department of Industries and Commerce, Government of Karnataka and Karnataka State Council for Science and Technology (KSCST), has organized a day-long workshop on – “Intellectual Property Rights: Significance in Business and Research on 6th October 2018 at Sahyadri Seminar Hall. Inaugural session was started with the prayer by college choir. Dr.Manjappa Sarathi (Director (R&D),SCEM) welcomed the dignitaries and gave the keynotes about the workshop. He shared the benefits of launching intellectual property (IPR) cell in Sahyadri.

Shri. Gokuldas Nayak, Joint Director, DIC, Mangaluru was the chief guest of the inaugural ceremony. He urged the importance of patenting in today's world. He also added that India is the treasure house of knowledge and it is our duty to protect it by IPR. He appreciated Sahyadri for launching an exclusive IPR cell and also for organizing an IPR workshop for the benefits of researchers, faculties and students.

Smt. Prabhavathi Rao (Program Coordinator- IP Initiatives, VTPC, Dept. of Industries & Commerce, Government of Karnataka), shared the trends in Intellectual Property Ecosystem and also highlighted the Initiatives from Government of Karnataka, Centre for Export Promotion towards this. The presidential remarks were given by Dr. Rajesha.S (Dean Academics-SCEM). He gave a overview of patenting process and commercialisation. The workshop was coordinated by Mr. Sharathchandra N R, Assistant Professor, Dept. of Electronics and Communications.

3 Days Workshop on Aspects of LTE-4G

TEQIP 1.3 sponsored three day workshop on “Aspects of LTE-4G” was inaugurated by Dr. M.H. Kori, Former Technical Director, Alcatel-Lucent Technologies, in presence of Dr. R Srinivasa Rao Kunte, Principal SCEM, Dr. Ashwath Rao, HOD, Department of ECE, SCEM, at Sahyadri College of Engineering and Management on 22nd March 2019. The workshop is held to give an insight to the faculty members affiliated to VTU about progress of Long Term Evolution (LTE) with specific reference to 4G. The course on LTE 4G has been introduced in the CBCS scheme for both UG and PG programmes in Communication related stream.

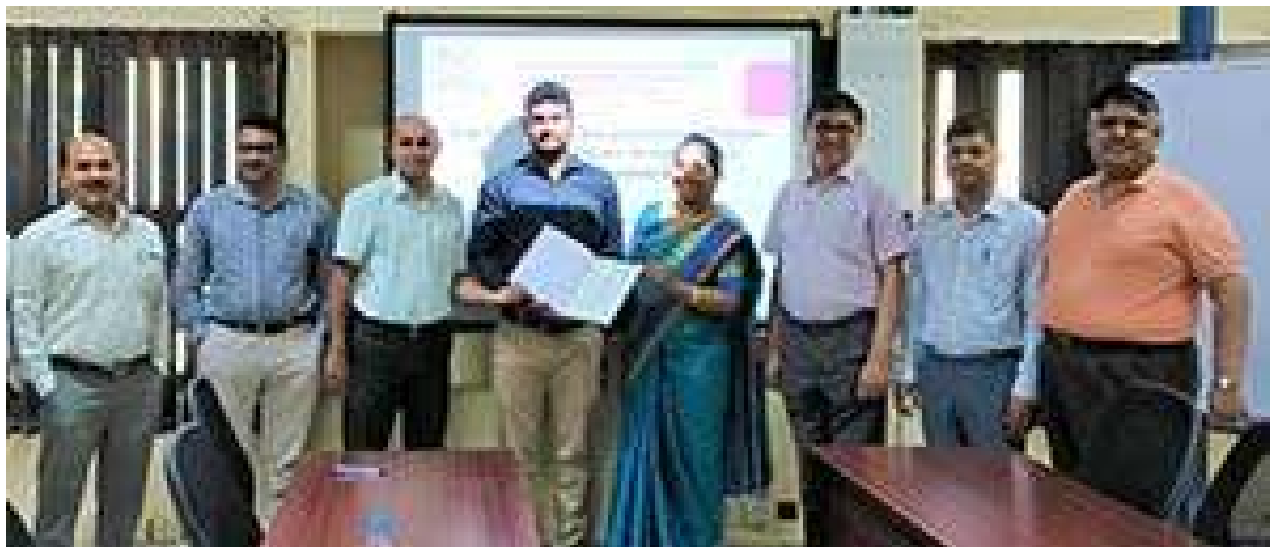


The workshop is being conducted to facilitate the faculty of VTU engineering colleges to understand the course contents and to get a brief over view about LTE and its components from experts.

Ms. Sahithya, the MC for the inauguration gave the general welcome followed by invocation by Ms. Sharanya and Ms. Sneha. The inaugural ceremony began with the formal procedure of lamp lighting to seek the blessings of Lord. Mr. Gurusiddhaya, Assistant Professor, ECE department welcomed the gathering.

Dr. Ashwath Rao, HOD, Department of ECE, SCEM highlighted the importance of the workshop and presented the schedule and contents that will be addressed during three day workshop. During the inaugural address Dr. M.H. Kori, Former Technical Director, Alcatel-Lucent Technologies, emphasized upon the importance of learning new technologies and tools for faculty and the students. Dr. M.H. Kori gave an insight about the importance of wireless and mobile communication. He highlighted about the history of Department of Telecommunication (DOT) and availing telephone connection in India before BSNL existed was a tedious task. He also gave statistics on the number of mobile manufacturing units in India and worldwide. Dr. R. Srinivasa Rao kunte briefed about the importance of workshop and informed the participants to take the maximum benefit from the workshop. Finally Mrs. Roopashree, Assistant professor, Department of ECE proposed the vote of thanks. Participants from various VTU affiliated colleges, Dean, HODs, and faculty members of Department of ECE were present.

Faculty successfully defends her Ph.D



Mrs. Joyline Gemine D'Sa, Assistant Professor, Department of Electronics & Communication Engineering has successfully defended her Thesis on "Fabrication and characterization of drug delivery devices for their application in controlled release" for the doctoral degree at IIIT-Allahabad. She will be awarded Ph.D degree at IIIT-A, during the convocation to be held on 14th September 2019.



Mrs. Joyline D'Sa carried out her research work under the supervision of Dr. Manish Goswami, Head of the Department, Electronics & Communication Engineering, IIIT-A and Prof. B.R. Singh. During her research she has published 4 international journals (SCI) and 2 international conference Papers.

Faculty selected to pursue PhD at Indian Institute of Space Science and Technology (IIST), Thiruvanthapuram



Prof. Nisha from the Dept. of Electronics & Communication Engineering has been selected to pursue PhD under AICTE-INAE Teachers Research Fellowship Scheme at Department of Avionics, Indian Institute of Space Science and Technology (IIST), Thiruvanthapuram. Engineering Teachers of AICTE approved institutions can apply for AICTE-INAE Teachers Research Fellowship Scheme for pursuing PhD in Government Research Labs. On applying, Nisha had to go through a Written Test and also an Interview round. She is the only candidate to be selected under this scheme in IIST in the whole of India making Sahyadri proud. Nisha is working with Sahyadri for the last 3 years and is also an Alumna of our institute. Her research area for PhD is "Microelectronics, Transducers & Actuators, Microelectromechanical System (MEMS), Electromagnetics, and Communication Systems".

Students Achievement & Events

Orientation for 2nd year students



Department of Electronics & Communication Engineering organized an Orientation program for 3rd semester students from 24-07-2019 to 27-07-2019. Dr. Ashwath Rao, HOD gave a brief overview of the department, verticals, thrust areas, NPTEL/MOOC courses and the mapping of various subjects to the thrust areas. He also gave an insight on how the Industry Connect Courses has been evolved and how they are mapped to future Skills. He encouraged the students to actively involve and take maximum benefit from the industry connect courses.

A brief introduction regarding Communication and Control system vertical viz, Elements of communication system, types of communication and applications of communication was presented by the faculty members. A video on the evolution of communication from stone age to modern age enlightened the students. The industry connect coordinator presented the objectives of the IC course and explained the three thrust areas such as Computer Communication Networks, Digital Communication and Control Systems with an example and its industrial applications.

The faculty members gave the introduction to topics such as Embedded Systems, 8051 Microcontroller, Electronics in Automobiles, Real Time Systems, Smart Systems and Smart home appliances, etc,. The team emphasized importance of programming language and various simulation tools.

Digital IC Design – System Verilog and UVM



Five-Day short term course on 'Digital IC Design' organized by the Department of Electronics and Communication Engineering was inaugurated by the Head of the Department Dr. Ashwath Rao. He addressed the students and participants about the importance of short term industry oriented courses and how students can get benefit from these initiatives provided by the department. He gave an overview of the course and emphasized the importance of the course and job opportunities in the field of digital IC design.

Resource persons Mr. Kedharnath L V, Field Application Engineer - Entuple Technologies, Bengaluru and Mr. Harish K S, Application Engineer - Entuple Technologies, Bengaluru addressed the participants and students. He advised them to use this opportunity provided by the institution. The session started with the basics of Verilog which included data types, assignment statements and task and functions and also different types of modeling like gate-level modeling, structural modeling, behavioral modeling and data-flow modeling. They also made student to write Verilog code in different models, then they explained about the RTL verification flow and then continued with hands-on session.

Workshop on “PCB: Design and Manufacture”



The objective of the workshop was to help the second year students render better circuit designs for their projects and in order to help them explore the possibilities of PCB designing. The workshop was organized and conducted by IETE Coordinator Mrs. Megha N and IETE Student's Forum committee members. The various topics delivered included advantages of PCBs, types of PCBs, uses of different PCBs and the process of etching PCBs. The students were introduced to open source PCB design software, using which they designed a simple sound amplifier circuit. The students were then provided with components to rig up the amplifier circuit. The hands-on experience in designing and building the circuit provided the students with exposure to the various thrust areas in VLSI vertical.

Technical talk on " Applications of Embedded controller in CNS for air traffic management"

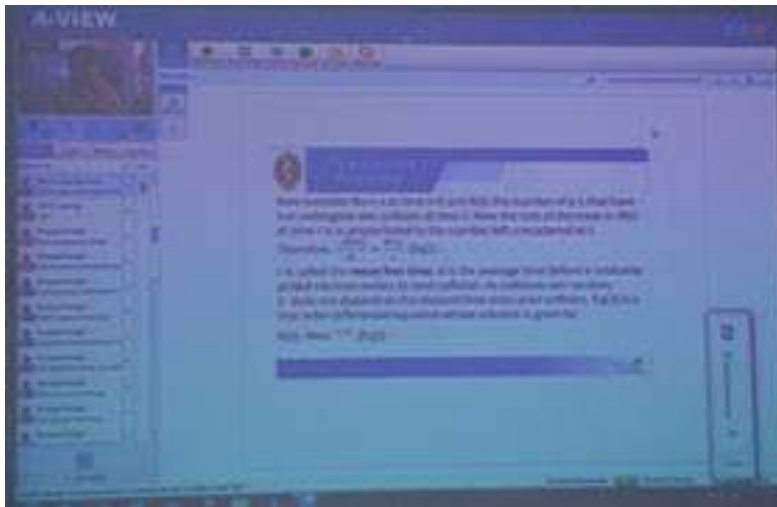


Department of Electronics and Communication had invited Mr. Thilak P, who is alumni of E&C department of Sahyadri College of Engineering and Management to brief the students of second year E&C students on the topic "Applications of Embedded controller in CNS for air traffic management". He explained about the Air traffic control (ATC) that it is a service provided by ground-based air traffic controllers who direct aircraft on the ground and through controlled airspace, and can provide advisory services to aircraft in non-controlled airspace. The primary purpose of ATC worldwide is to prevent collisions, organize and expedite the flow of air traffic, and provide information and other support for pilots.

He explained the Embedded System that it is integration of hardware and software, the software used in the embedded system is set of instructions which is termed as a program. The microprocessors or microcontrollers used in the hardware circuits of embedded systems are programmed to perform specific tasks by following the set of instructions.

He briefed about where and why the Embedded systems are used in ATC. Since the ATC requires the real time monitoring the Embedded Systems are used because in ATC take-off and the landing of the plane is the crucial part. In order for the perfect communication between the pilot and the base station Embedded system is used. He also explained the advantages of the Embedded systems in CNC in ATC.

VTU e-Learning Video Lecture on 'Electronic Devices' for E&C Engineering students



The third semester students from the Dept. of Electronics & Communication Engineering attended the VTU e-Learning Video lecture on “Electronic Devices” under “VTU e-Shikshana” platform on 28th Aug’19. The deliberations of the session included topics on Electron conductivity and mobility, Drift and Resistance, Effects of temperature and mobility. VTU e-Learning Centre, has taken up a new initiative in enriching knowledge and empowering education through implementing Virtual Interactive e-Learning platform named as “VTU e-Shikshana- Empowering Education through e-Learning Platform”, which enables the students of VTU to interact with eminent scholars in an immersive e-learning environment. This interactive e-Learning platform enables video conferencing which allows the users to have seamless live video and audio streaming experience.

AEnCES Inauguration



The Association of Electronics & Communication Engineering Students (AEnCES) of the Department of Electronics & Communication Engineering, for the Academic Year 2019-20, was inaugurated on 22nd Oct'19. The theme of the event was RED CARPET. Dr. R. Srinivasa Rao Kunte, Principal, was the chief guest of the event. He addressed the gathering and briefed about the upcoming visit of the NBA team to the campus. He also spoke about how NBA accreditation could benefit the student fraternity. Dr. Ashwath Rao, Head, Department of Electronics & Communication Engineering gave insights into the various initiatives of the department such as virtual labs, mentoring and peer to peer learning. The key to achieve goals, is the active involvement of students in these initiatives, he stressed.

Mr. Gurusiddhaya Hiremath, Co-ordinator indicated the importance of such events in the future life, when students start working. He also expressed his gratitude to students, teaching and non-teaching staff, for their active involvement in making this event a success. Ms. Deepthi Rai, Secretary – AEnCES, presented planned events for the Academic Year 2019-20. Mr. Hancy Rohan Crasta, final year student and Mr. Shashank A.G. third year student, presented achievements of students in academics, cultural, sports fields and also in various initiatives of the department. Various cultural events were organized by the students.

TECHVISION 2019



As a part of Techvision-2019 first Technical round for the students of Electronics & Communication Engineering department was held on April 25, 2019. The theme for Techvision-2019 was ELEVATE 50 where students were challenged to develop PRODUCT BASED STARTUPS and not just scientific projects. The objective of the event is to show case the talent of the students by means of projects. Students were told to present their ideas either through posters, powerpoint presentation or working models. They need to include the motivation behind the idea, literature survey, and the way of converting the available project into product in the deliberation. The ideas are evaluated by the external judges in the blind review technical round. It is a rigorous process with careful evaluation based on rubrics.

The selected teams in Blind Technical Round will undergo one day business training on how to prepare a business plan for startup and also how to pitch your product to investors/funding agencies. Based on the business training, the teams will prepare their project pitch and business plan and present them to ELEVATE 50 Jury. This is purely a business round where only business parameters are evaluated. Out of Top 50, Top 20 will be selected depending on the Jury. This Top-20 will be given grants from the 20 lakhs pool to build the Student-Faculty startups. Dr. Ravilla Dilli and Dr. D. V. Kamath were the external judges for the Blind review technical round held in the department. 30 teams have participated in the first round out of which 10 teams has been selected by the judges for the business pitching competition.

Dr. D. V. Kamath is working as a Professor in the Department of Electronics and Communication Engineering, Manipal Institute of Technology, Manipal. His areas of research interest include digital, analog and mixed signal VLSI design, analog VLSI signal processing, digital VLSI architectures, and fractional order circuits. Dr. Ravilla Dilli is working as a Professor in the Department of Electronics and Communication Engineering, Manipal Institute of Technology, Manipal. He does research in Communication Engineering, Communication Networks, Telecommunications Engineering, High-Speed Networks and Computer Engineering.

Projects win “Best Project of the Year” Award in KSCST



In the 42nd Series of Karnataka State Council for Science & Technology (KSCST) Seminar & Exhibition of Student Project Programme held at KLE Dr. M.S. Sheshgiri College of Engineering and Technology, Belagavi during 26th and 27th July'19, two of the Sahyadri projects were awarded as the "Best Project of the Year" for the year 2018-19.

Project: "Dream Kit-Internet of Things Based Hardware Modular Kit for Easy Prototyping"-Students- Mr.Aashish U S, Mr.Deekshith, Mr.Khadeejath Jasna and Ms. Prajna K. Project Guide - Mr.Savidhan Shetty C S

Alumni Interaction



Mr. Keerthan Nayak, an alumnus of Department of Electronics & Communications Engineering currently working as Associate Engineer-Testing in SLK Software Services Pvt Ltd interacted with the second year Electronics & Communications Engineering students and discussed the various opportunities in electronics domain. He shared his experience about his interview process, nature of work he does and the opportunities available in PSU's. He stressed on pursuing higher studies in abroad or in any prestigious institution of India. IoT, embedded system and VLSI are the key domains in which a person must be specialized in order to get into any Electronics & Communications domain company. Also, he stressed on getting certified in programming languages such as Python. He also advised to maintain good aggregate so that they can get placed before completing their engineering. The students asked a number of questions and got clarity on their doubts from this interaction.



Student alumni interaction session was held for 6th semester EC students on 30th April, 2019. The invited alumni "Ms. Prateeksha" shared her valuable knowledge about the industry and gave a talk on how communication skills will be helpful.



Akash K Sugunan, System Engineer, TCS emphasized on the role of an Electronics & Communication Engineer in an IT industry. IT industry will have domain specific work, so based on the domain EC engineer can get a core engineering domain as well depending on their performance. He encouraged them to participate in paper presentation, debate competitions which can improve soft skills. He suggested doing small projects which can help them to work in a team, improve their communication skills, and present themselves and their ideas in a better way. He emphasized on the importance of working in a company before going for a higher study or being an entrepreneur. Job will give a clear picture for a person to choose a proper domain of his work. And he stressed on doing higher study in a reputed college to get a better opportunity.