The Spintronics

J. B. Institute of Engineering & Technology

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NEWSLETTER

Department of ECE

Vision

To be a guiding force enabling multifarious applications in Electronics and Communications Engineering, promote innovative research in the latest technologies to meet societal needs.

Mission

➢ To provide and strength encore competencies among the students through expert training and industry interaction.

➢ To promote advanced designing and modeling skills to sustain technical development and lifelong learning

INSIDE HIGHLIGHTS

HOD'S MESSAGE   EVENTS   STUDENTS ACHIEVEMENTS   ARTICLES

Dr. Towheed Sultana
HOD, ECE

Message from HOD

"I heartily congratulate all the and students for the Newsletter. I also congratulate IEEE Student Chapter for organizing workshops and events in this semester. And especially the conducting of seminars is a great step for our Department.

Events Conducted

- Three Days workshop on "Eradicating pandemic effects with the effect of 5Q"
- Workshop on Electronic Circuits
- One-week Intensive teaching workshop
- Latest wireless and Computing Technologies

Workshop on "Eradicating pandemic effects with the effect of 5Q

In the workshop the topics were covered is

- EQ, IQAQ Edge-An Route to Success
- Minding yours Minds
- Developing Winning qualities for a Post Covid-19 world.
- Maintaining Quality of Work life during Pandemic.
- Power of Mind-exclusive session for students.
- Spiritual Quotient A holistic power to Sustenance.

Dr. Astha Sharma and Mr. Sai Kumar Tara has graced the occasion with all the topics. Along with Dr. Towheed Sultana delivered the safety methods of living life in current scenario.

Speakers of the Three days national workshop

Workshop on Electronic Circuits

Dr. A. K. Chakrabarty was the Key Note Speaker. The topics covered were

- Training on Electronics Application Development
- Training will be hands-on / Practical sessions
- Free Electronics Beginner Kit*
- Circuit Designing
- Circuit Simulation & Analysis
- Prototyping & Soldering
- Circuit Testing & Debugging
- Converting Ideas in to Specifications

One-week Intensive teaching workshop

The Labs covered and Resource person names

Name of the Lab	Name of the Faculty
Electronic Devices and Circuits	Mr VVVS Prasad
Basic Simulation Lab	Dr. Pradhan
Digital Electronics lab	Dr. Towheed Sultana
Analog Circuits Lab	Dr. Jana
Analog Communications Lab	Dr.Himanshu
Microprocessors and Microcontrollers Lab	Ms Samata
Digital Signal Processing Lab	Dr. Ibrahim
DC Lab	Mr Ravi Kiran
VLSI Lab	Dr Salauddin
Microwave Engineering Lab	Mr Raj Kumar

Latest wireless and Computing Technologies

Dr Anil Vuppala, IIT Hyderabad was the Resource person, He described in detail regarding the different computing technologies and the various area of interest of research for students and faculty.

1. **5G Technology**: 5G technology was gaining widespread adoption across the globe. It promised faster data speeds, lower latency, and increased connectivity compared to previous generations of wireless technology. It enabled advancements in various sectors, including autonomous vehicles, IoT, augmented reality (AR), and virtual reality (VR).

2. **Edge Computing**: Edge computing involves processing data closer to the source of generation rather than relying on a centralized data processing warehouse. This technology was becoming increasingly important, particularly in applications where real-time processing and low latency are critical, such as IoT, autonomous vehicles, and industrial automation.

3. **Artificial Intelligence (AI) and Machine Learning (ML)**: AI and ML were continuing to drive innovations across various domains, including natural language processing (NLP), computer vision, healthcare, finance, and cybersecurity. Advancements in AI and ML algorithms, coupled with increasing computational power, were pushing the boundaries of what was possible in terms of automation and data analysis.

4. **Quantum Computing**: While still in its early stages, quantum computing held immense promise for solving complex problems that were intractable for classical computers. Companies and research institutions were making significant strides in developing quantum computers and

exploring potential applications in areas such as cryptography, optimization, drug discovery, and material science.

5. **Internet of Things (IoT)**: The IoT ecosystem was expanding rapidly, with an increasing number of connected devices ranging from smart home appliances and wearables to industrial sensors and infrastructure. This proliferation of IoT devices was driving demand for improved connectivity, security, and interoperability standards.

6. **Blockchain and Cryptocurrency**: Blockchain technology continued to evolve beyond its initial application in cryptocurrencies like Bitcoin. It found use cases in supply chain management, identity verification, decentralized finance (DeFi), and digital voting, among others. Additionally, central banks and financial institutions were exploring the potential of central bank digital currencies (CBDCs) built on blockchain technology.

7. **Extended Reality (XR)**: Extended Reality, encompassing virtual reality (VR), augmented reality (AR), and mixed reality (MR), was becoming increasingly sophisticated and accessible. These technologies found applications in gaming, entertainment, education, training, and remote collaboration.

8. **Biometric Authentication**: Biometric authentication methods, such as facial recognition, fingerprint scanning, and voice recognition, were gaining traction as more secure and convenient alternatives to traditional passwords. They were being integrated into various devices and systems, including smartphones, laptops, and access control systems.

Student and faculty achievements
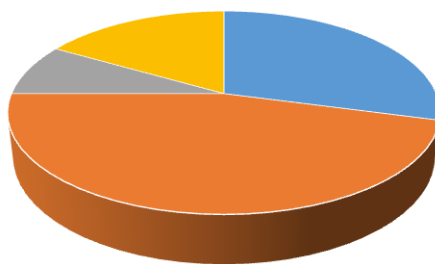
- Patents published
- Papers published/Faculty in conferences/journals
- Research projects
- Students participated outside college activities(workshops, webinars, internships)

- B.Nikitha attended Webinar on "Recent Trends in DC to DC Coverters" at Xavier Engineering College, Tirunelveli on 10.07.2020.
- B.Kusuma Priya participated, Online Quiz on "Analog Communication"At Sri Venkateshwara Engineering College, Suryapet, on 21-08-2020.
- P.Sagar attended Workshop on "Digital Image Processing Using Matlab"At Matrusri Engineering College, Saidabad, on 27-07-2020
- P.Chandra Shekar Reddy attended Development Program On "Digital IC Design With DFT Concepts Using Mentor Graphics Tools" At Mahaveer Institute of Science &Technology, At Bandlaguda on29-06-2020 to 1.7.2020.

Faculty Research project

Project titled Smart Movement Security System for VIPS Use (SMSS) was sanctioned by Interactive Electronics Research and Development Laboratories worth Rs 467000.00/-. to Dr. Anindya Jana (PI) Mr. Rajender Reddy (Co PI)

Patents

- An Efficient Horizontal to and Fro System for Paraplegic Patient Based on Electrical Simulation by Mr. Raj Kumar D Bhure, Associate Professor, ECE, JBIET, 202041007603, 21.8.2020
- A Robotics Based Muscular Spasm Relief Device by N.Ramesh Babu, Dr.Himanshu Sharma, Dr Towheed Sultana 2020102322 -21.8.2020
- Wireless Mouse System with Power Saver Technology,N.Ramesh Babu, Dr.Salauddin, Dr.Ibrahim Sadar, Dr.Himanshu Sharma, Dr.Prasanta Kumar Pradhan, 202041033101,21.8.2020
- Automated IOT Based Smart Toilet,Dr.Anindya Jana, Dr.Towheed Sultana, Dr.Ibrahim Sadar, Dr.PK Pradhan, 202041026097,10.7.2020