BUILDERS ENGINEERING COLLEGE

A NEWSLETTER OF

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

DEPARTMENT - VISION & MISSION

VISION

To be an updated technocrat in the field of Electronics and Communication Engineering.

MISSION

Preparing rural students for successful career through creative thinking and knowledge application

CONTENTS

Vision of the Institution

To be the most preferred knowledge provider.

Mission of the Institution

Builders Engineering College endeavors to prepare rural students for successful career through academic and applied research.

About the Department

Established in 2009, the Department commenced with an initial intake of 60 students. It boasts 10 fully-equipped laboratories, each adhering to university norms and furnished with cutting-edge technology.

The ECE Computer Centre provides students access to special software packages such as MENTOR GRAPHICS, PSPICE, MATLAB, Xilinx ISE, MULTISIM, MODELSIM, and KIEL.

The department stands out with its distinctive offerings, including advanced trainer kits, ARM Processors, Altera development boards, CPLD Trainer kits, and Wireless Sensor Networks trainer kits. These resources empower students to engage in real-time projects and practical learning experiences.

The department actively engages with professional bodies such as IEEE, IETE, and ISTE, providing a valuable platform for both faculty members and students. Additionally, an incubation centre has been established to foster and cultivate a culture of innovation, particularly in the realm of IoT systems, utilizing LoRaWAN technology.

Programme Specific Outcomes (PSOs)

- To design and develop complex systems in the research areas of next generation Communication Systems, RF and Power systems.

- To design and develop systems in the domains of IoT based Embedded Systems, Advanced Signal and Image Processing and latest Semiconductor technologies.

Program Educational Objectives (PEOs)

- Shall be successful in their professional careers, academic pursuits and research

- Shall study and build abilities on a continual basis in order to deliver high-impact, energy-efficient and futuristic solutions

- Shall demonstrate strong communication skills, a professional mindset and ethics in order to create and build real-world multidisciplinary solutions that are technically sound, economically feasible, and socially acceptable.
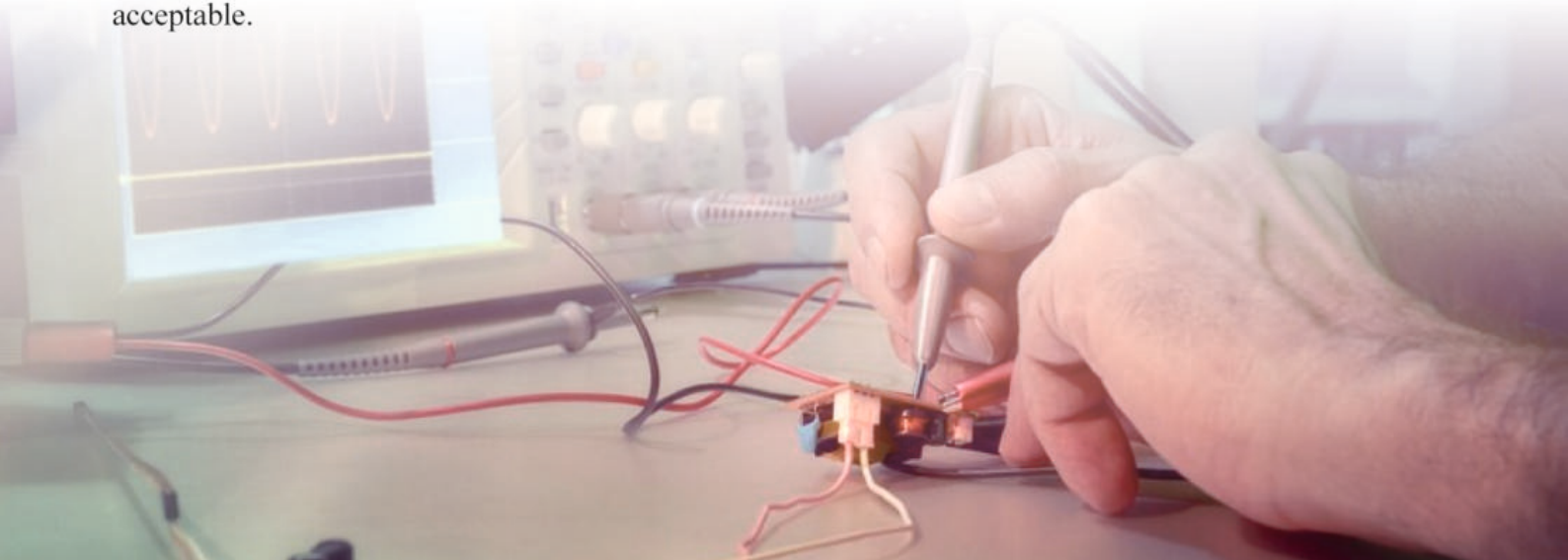
Principal's Message

With utmost joy and pride, I extend my heartfelt congratulations on the publication of the Electronics and Communication Engineering Department Newsletter. This newsletter serves as a testament to the remarkable progress achieved across various domains, encompassing both academic and non-academic spheres, as well as the ongoing development of capacities relevant to our esteemed faculty and students.

I extend my sincere gratitude to Dr. S. Kumar, HoD/ECE, for his invaluable guidance and leadership throughout the creation of this technical masterpiece.

My warmest congratulations go out to the dedicated staff members and enthusiastic students who have dedicated their time and effort to bring this newsletter to fruition. Your collective contributions have undoubtedly played a pivotal role in the success of this publication.

Wishing continued success in all our future endeavors.

Dr. S. Gopalakrishnan
Principal

Words from Head of the Department

Dear Esteemed Members of the ECE Department,

It is with immense pride and joy that I extend warm greetings to each one of you through the platform of our Electronics and Communication Engineering (ECE) Newsletter. I express my heartfelt appreciation to the dedicated Editorial Board, whose unwavering commitment and diligence have culminated in the realization of this newsletter. Your relentless efforts in ensuring efficiency and timely delivery are truly commendable.

A special note of gratitude is extended to all faculty members, staff, and students whose invaluable time and expertise have significantly contributed to the success of this newsletter. Your evident passion for excellence serves as a cornerstone in shaping the positive trajectory of our department.

Thank you all for your unwavering dedication and hard work. Here's to a brighter future for the ECE Department!

Dr. S. Kumar
Head of the Department

Editor's Desk

Dear Esteemed Readers,

Hello and a hearty welcome to the latest issue of our Electronics and Communication Department Newsletter! As we traverse the ever-evolving terrain of technology, we are thrilled to bring forth the newest advancements, accomplishments, and intriguing projects from our department for your perusal.

We take great pride in spotlighting the remarkable accomplishments of both our students and faculty, individuals who consistently push the boundaries of knowledge, contributing significantly to the progress of our field.

Our dedication to cultivating a collaborative and forward-thinking community is evident in the diverse array of events and activities showcased in this newsletter. Ranging from enlightening guest lectures by industry experts to hands-on workshops and invigorating hackathons, our goal is to furnish our students with opportunities to confront real-world challenges and elevate their skill sets.

As we embark on another semester brimming with promise and potential, we extend our sincere gratitude to our devoted faculty, spirited students, and the supportive community that surrounds us. Together, we are actively shaping the future of electronics and communication, and we are genuinely thrilled to have you accompany us on this journey.

Thank you for your unwavering interest and support. We trust you will find enjoyment in perusing this edition of our newsletter and encourage you to stay tuned for further updates from the Electronics and Communication Department.

Warm regards,

Mr. U. Rajasekaran, AP/ECE
Managing Editor

Editorial Team

Editor in Chief:

Dr. S. Kumar, HoD/ECE

Managing Editor:

Mr. U. Rajasekaran, AP/ECE

Concept & Design:

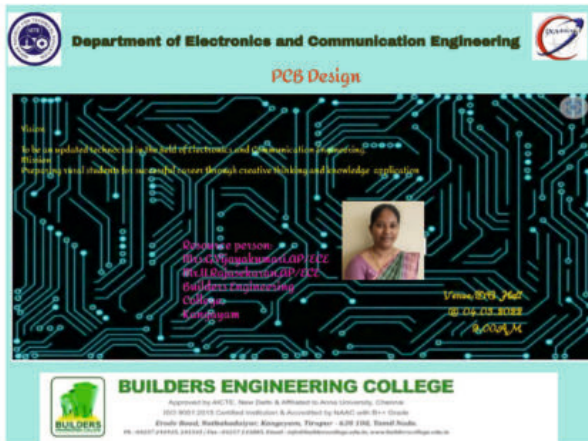Ms. V. Manimala, AP/ECE

Student-Chief Editor:

Ms. A. Ayisha Banu, IV Year

Associate Editors:

Mr. M. Juvairiya, IV Year
Mr. P. Ashokkumar, III Year

EVENTS ORGANIZED


Special Lecture on "PCB Design"
March 04, 2022

The ECE Association "GNAANA" organized a special lecture on "PCB Design" on March 4, 2022, at the DC Hall and ECE Incubation Center. Mrs. G. Vijayakumari and Mr. U. Rajasekaran, Assistant Professors at Builders Engineering College, led the session, covering fundamental principles, advanced techniques, and real-world applications, emphasizing life-long learning in PCB design. The lecture provided students with practical experience in PCB design, underlining the significance of continuous learning in the field.

Guest Lecture on "Security Alert Mechanisms using Raspberry Pi"
April 08, 2022

The Department of ECE organized a guest lecture on "Security Alert Mechanisms using Raspberry Pi" on April 8, 2022, featuring Er. R. Raj Kumar, M.E., Technical Consultant at Spectrum InfoTech, Virudhunagar. His lecture covered security systems and Raspberry Pi integration, complemented by live demonstrations for practical understanding. Er. R. Raj Kumar also addressed project management and financial aspects essential for effective implementation in security systems.
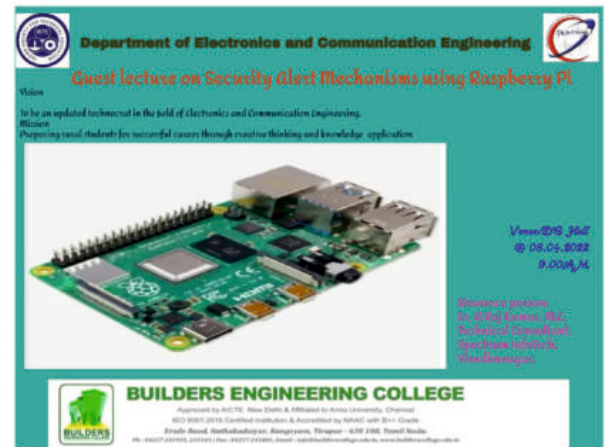
Guest Lecture on "Electromagnetic Fields"
April 27, 2022

The Department of Electronics and Communication Engineering organized a guest lecture on "Electromagnetic Fields (Ec8451)" on April 27, 2022, at the DC Hall. Mrs. V. Femina, Assistant Professor at PSNA College of Engineering & Technology, Dindigul, served as the guest speaker, providing insights into key concepts, applications, and real-world insights. The lecture encouraged students to analyze complex engineering problems related to electromagnetic fields, fostering a deeper understanding.

Techtalk: Future Opportunities in Optical Communication

May 24, 2022

The Student Association "GNAANA" and ISTE organized an event at Builders Engineering College, Kangayam, focusing on "Future Opportunities in Optical Communication." Mr. R. Praveenkumar delivered a keynote address, sharing insights into emerging trends and challenges. Attendees engaged in a lively Q&A session, gaining deeper understanding and enthusiasm for the field. The event emphasized lifelong learning amidst technological advancements.
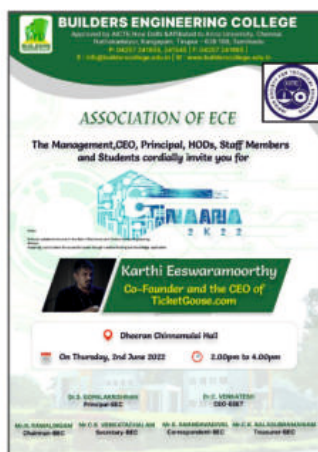
GNAANA Valediction

June 02, 2022

On June 2, 2022, the ECE's Valedictory Function, with "GNAANA" and ISTE, featured Mr. Karthi Easwaramoorthi's insightful lecture on "Becoming an Entrepreneur: How?" He shared his entrepreneurial journey, emphasized industry trends, career skills, and leadership. The event concluded with acknowledgment of achievements, marking the end of the academic year and expressing gratitude to sponsors and contributors.

FACULTY PARTICIPATION

Name of the Faculty	Name of the Event	Event Organizer
Ms. V. Manimala, AP/ECE	Recent Trends on Metamaterial Antennas for Wireless Applications and Deep Learning Techniques	NIT, Trichy
	Recent Advances in Antennas for Wireless Communications	Bapatla Engineering College
	MATLAB Applications In Industry 4.0	NITTTR, Chennai
	A Webinar On Microwave Remote Sensing of Earth	International Centre for Radio Science
	CAD Based Modelling Of Communication Techniques And Antenna Design	NIT, Trichy
	Best Practices In Research, Innovation And Extension Under Criterion III Of NAAC Accreditation	Sree Saraswathi Thiyagaraja College
Mr. S. Mahendran, AP/ECE	Short term course on "CAD based Modelling of Communication Techniques and Antenna Design	National Institute Of Technology, Tiruchirapalli
	FDP on 'Meeting the Challenges of Global Economy in 21st Century'	Builders Engineering College

Name of the Faculty	Name of the Event	Event Organizer
Dr. S. Kumar, Prof/ECE	Nexgen Innovative Applications - Drone Technology	IEI - ELC And BEC – IIC
	Sustainable Development & Environmental Production Technology	Isbm University, Chhattisgarh
	National Intellectual Property Awareness Mission	Intellectual Property Office, India
	FDP On Redemption From Plastic Pollution: Indian Railways	National Rail And Transportation Institute (ATAL)
	FDP On Presentation Skills	ICT Academy
Ms. G. Vijayakumari, AP/ECE	FDP On "Recent Advances In Composites And Nano Materials	AICTE Training And Learning Academy(Atal)
	Short Term Course On "CAD Based Modelling Of Communication Techniques And Antenna Design	National Institute Of Technology, Tiruchirapalli
	FDP On Unleash The Prominence Of Flowers - A Women Empowerment Programme	R.M.K. College of Engineering And Technology, Tiruvallur Dt.
	FDP On Techniques In Research And Innovations (TRI 2021)	Karpagam College Of Engineering, Coimbatore.
	STTP on Cyber Security: Challenges and Technologies	Mit Campus, Anna University, Chennai
	MATLAB Applications In Industry 4.0	National Institute of Technical Teachers Training and Research, Chennai.
	Nexgen Innovative Applications - Drone Technology	Builders Engineering College
	Global Event: Impact Of Technology On The Conduct Of Warfare	Builders Engineering College
	International Conference On Management, Engineering, Science And Humanities	Builders Engineering College
	2022 8th International Conference On Advanced Computing And Communication Systems (ICACCS)	Shri Eshwar College of Engineering
	International Conference On Smart Technologies And Applications-2022 (ICSTA 2022)	Ramco Institute of Technology
Mr. S.D. Vijayakumar, AsP/ECE	FDP On Computer Networks And Internet Protocol	NPTEL - AICTE
	STTP on Cyber Security: Challenges And Technologies	MIT Campus, Anna University Chennai
	FDP on Professional and Communicative English	Bharathiyar University, Coimbatore
	FDP in techniques in research and innovation	Karpagam college of Engineering
	FDP "Meeting the challenges of global economy in 21st century"	Builders Engineering College
	NAAC Sponsored Virtual workshop on Criteriaon III	Sree Saraswathi Thiyagaraja College
	Class Room Assessment -Slow Learners and Fast Learners	Velagapudi Ramakrishna Siddhartha Engineering College

Name of the Faculty	Name of the Event	Event Organizer
Mr. S. Sathish, AP/ECE	Short term course on "CAD based Modelling of Communication Techniques and Antenna Design	National Institute Of Technology, Tiruchirapalli
Mr. M. Prakash, AP/ECE	Webinar On Current Research In VLSI	Dept. of ECE, Hindusthan Institute of Technology, Coimbatore
	Six Day FDTP on EC8352 – Signals And Systems	Centre For Faculty Development, Anna University, Chennai - Dept. of ECE, Dr. MCET, Pollachi
	Six Day Fdtp On Ee8391 Electromagnetic Theory (Online Mode)	Centre For Faculty Development, Anna University, Chennai - Dept. of EEE, KPR EIT, Coimbatore
	Online Course - Write Professional Emails In English	An Online Non-Credit Course Authorized By Georgia Institute of Tech. and Offered Through Coursera
	Fdp On Meeting Challenges Of Global Economy In 21st Century	Indian Society For Technical Education Chapter	Builders Engineering College, Kangayam
	One Week National Level Fdp On Verilog Hdl For Fpga And Embedded Applications	Dept. of ECE, Rise Krishna Sai Prakasam Group of Institutions, Ongole In Association With Star VLSI Services Pvt. Ltd., Bangalore
	Five Day Online Fdp On Techniques In Research And Innovations (Tri 2021)	Dept. of Electronics And Communication Engineering, Karpagam College Of Engineering, Coimbatore
	Webinar On Career Options And Opportunities For Electronic Graduates	Department Of Electronics And Communication Engineering, Hindusthan Institute Of Technology, Coimbatore In Association With Ieee Students Chapter
	Fdp On Research Trends In Vlsi, Communication & Signal Processing	Department Of Electronics And Communication Engineering, Bapatla Women's Engineering College, Bapatla, Andhra Pradesh
	Two Day National Level Webinar On Iot Architecture And Technologies For Smart Cities	Department Of Electronics And Communication Engineering, G. Pulla Reddy Engineering College (Autonomous), Kurnool
	International Online Workshop On Matlab Applications In Industry 4.0	Nitttr, Chennai
	3 Day National Level Workshop On Wireless System Design Using Simulink And Vivado	Department Of Electronics And Telecommunication Engineering, Bangalore Institute Of Technology, Bangaluru In Association With Coreel Technologies
	Six Days Fdp On Recent Advancements In Organic & Nano Electronics Raone 21	Department Of Electronics And Communication Engineering, Srmist, Chennai
	Webinar On Nexgen Innovative Applications - Drone Technology	IEI - ELC & BEC – IIC
	AICTE Training And Learning Academy (Atal) Online Elementary Fdp On Recent Advances In Composites And Nano Materials	Dr. Ambedkar Institute Of Technology

Name of the Faculty	Name of the Event	Event Organizer
Mr. M. Prakash, AP/ECE	AICTE - Iste Approved Orientation/Refresher Programme On Electronic Circuits Simulation And Pcb Design	Agnel Institute Of Technology And Design, Assagao, Goa
	Six Day FDP on EC8095 - VLSI Design	Centre For Faculty Development, Anna University, Chennai - Department Of Ece, Psna College Of Engineering And Technology, Dindigul
	IP Awareness/Training Program Under National Intellectual Property Awareness Mission (Nipam)	Intellectual Property Office, India
	Department Of Biotechnology (Dbt) Sponsored One Day Online Seminar - Biotechnological Applications Using Fiber-Optic Sensors	Department Of Ece, Kongunadu College Of Engineering And Technology, Trichy
	Nptel Online Certification Course - Microprocessors And Interfacing	IIT, Guwahati
	Online Course On Introduction To Internet Of Things And Embedded Systems	University Of California, Irvine And Offered Through Coursera
Dr. R. Praveenkumar, AP/ECE	Current Research In VLSI	Hindusthan Institute of Technology, Coimbatore
	Research Management	Nadimpalli Satayanarayana Raju Institute of Technology – Visakhapatnam
	Class Room Management – Fast & Slow Learners	Velagapudi Ramakrishna Siddhartha Engineering College with NITTTR Chennai
	Techniques In Research & Innovations	Karpagam College of Engineering – Coimbatore
	Meeting The Challenges Of Global Economy In 21st Century	Builders Engineering College in Association with ISTE
	Nexgen Innovative Applications - Drone Technology	IEI – ELC & Builders Engineering College
	International Conference On Management, Engineering, Science And Humanities	Builders Engineering College
Mr. U. Rajasekaran, AP/ECE	FDP On Future Advancement In The Field Of Telecommunication And Embedded System	Rajkumar GOEL Institute Of Technology
	FDP on Techniques in Research and Innovations (TRI 2021)	Karpagam College of Engineering
	Current Research in VLSI	Hindusthan Institute of Technology, Coimbatore
	Research Journal Finding And Reference Management Through Web Of Science And Scopus - Research Management	Nadimpalli Satyanarayana Raju Institute of Technology, Visakhapatnam
	Advance Artificial Intelligence Techniques Withmatlab - Applications And Challenges In Industry 4.0	DesignTech Systems Pvt. Ltd.
	Advanced Trends And Applications In Mobile ADHOC Networks	Government College of Enginering, Thanjavur
	Recent Advancements In Organic & Nano Electronics Raone 21"	SRM Institute of Science & Technology
	Nexgen Innovative Applications - Drone Technology	IEI - ELC and BEC – IIC

Name of the Faculty	Name of the Event	Event Organizer
Mr. U. Rajasekaran, AP/ECE	'Meeting The Challenges Of Global Economy In 21st Century'	Builders Enginereing College
	International Conference On Management, Engineering, Science And Humanities	Builders Enginereing College
Mr. T. Velmurugan, AP/ECE	"Nexgen Innovative Applications - Drone Technology"	Builders Enginereing College
	VLSI Design (EC8095)	PSNA College of Engg & Tech
	'Meeting The Challenges Of Global Economy In 21st Century'	Builders Enginereing College
	International Conference On Management, Engineering, Science And Humanities	Builders Enginereing College
Mr. V. Kumar, AP/ECE	Short Term Course On Cad Based Modelling Of Communication Techniques And Antenna Design	National Institute of Technology, Tiruchirappalli
	Smart Irrigation System Using Lorawan At International E-Conference On Recent Developments In Engineering, Science & Technology	Dhaanish Ahmed Institute of Technology, Coimbatore
	Guest Lecture Organized For Guest Lecture On Emf	Builders Engineering College
	International Conference On Management, Engineering, Science And Humanities	Builders Engineering College
	"NexGen Innovative Applications - Drone Technology"	Builders Engineering College
	'Meeting the Challenges of Global Economy in 21st Century'	Builders Engineering College
Mr. M. Shanmugham, AP/ECE	Robotics & Machine learning	Aiman College of Arts & science for women, Trichy
	Mathematical software workshop	Universal Engineering College
	Techniques in Research and Innovations	Karpagam college of Engineering
	Research Publications and its Metrics	The Standard Fireworks Rajaratnam College for Women, Sivakasi.
	Thesis documentation skills for Researchers using MS word, Excel and LaTex editor	Anantha Lakshmi Institute of Technology & Sciences, Anantapur.
	The role of English in Present higher education	Sambharam College of Hotel Management
	Hardware aspects of Embedded systems	CSI College of Engineering
	Electronics Equipment Integration, Prototype Building and PCB Design	Trident Academy of Technology, Bhubaneswar
	Research trends and challenges in data security	Presidency University
	IoT	Enthu Technology Solutions India Pvt. Ltd., Coimbatore
	Multi-technology	Sridevi Women's Engineering College
	Writing and Publishing Research articles	MES ASMABI College, Kerala.

Name of the Faculty	Name of the Event	Event Organizer
Mr. M. Shanmugham, AP/ECE	Recent Advancements in Organic & Nano Electronics	SRMIST, Chennai
	Research Methodology Tools and Techniques	Govt. Model Science College
	Mentoring Teaching & Pedagogy in Technical Education	Dr. M.G.R. Educational and Research Institute
	NexGen Innovative Applications - Drone Technology	Builders Engineering College
	Intellectual Property Rights (IPR)	Pemraj Sarda College, Ahmednagar
	How to publish high impact research articles	Sullamussalam Science College, Malappuram
	Signals, Systems and Transform Techniques	MVSR Engineering College, Hyderabad
	Mendeley	Amity University, Gwalior

GUEST LECTURES DELIVERED

Date	Name of the Faculty	Title	Name of the Organization
03.02.2022	Ms. V. Manimala, AP/ECE	Transient Analysis in Electric Circuits	Saveetha Engineering College, chennai
22.04.2022	Mr. S.D. Vijayakumar, AsP/ECE	Mentoring Students for Internship Oppurtunities	KSR Institute of Engineering & Technology, Tiruchengode

STUDENT PARTICIPATION

PAPER PRESENTATION

Date	Name of the Student	Name of the Event/Title	Organizer
28.05.2022	V. Anandhan	Black Box	Shree Venkateshwara Hi-Tech Engineering College
	K.B. Kaviyarasu		
28.05.2022	B. Hemalatha	OLED	Shree Venkateshwara Hi-Tech Engineering College
	G. Manjula		
28.05.2022	M. Dineshkumar	Nano Tech	Shree Venkateshwara Hi-Tech Engineering College
	S. Naveenkumar		
28.05.2022	K. Gokulakannan	Lora Tech	Shree Venkateshwara Hi-Tech Engineering College
28.05.2022	A.R. Tajunnisha	Humanoid Robotics	Shree Venkateshwara Hi-Tech Engineering College
	G. Pavithra		
28.05.2022	P. Rohinth	Eco-friendly refrigerator	Shree Venkateshwara Hi-Tech Engineering College
	J. Subramaniasiva		

CONFERENCE ATTENDED (INTERNATIONAL)

Date	Name of the Student	Name of the Event/Title	Organizer
17.06.2022	A. Ayisha Banu G.S. Manikandan	SMS Greeting BOT using RFID technology along with temperature detection & sanitizer spray	Dhaanish Ahmed Institute of Technology
17.06.2022	M. Madhan Raj V.S. Gokul	Smart Irrigation system using LoRaWAN	Dhaanish Ahmed Institute of Technology
17.06.2022	K. Priyanka S. Sriman	Wireless power transfer for charging electric vehicle	Dhaanish Ahmed Institute of Technology
17.06.2022	C. Hemanandhini M. Indupriya	IoT Based energy meter Arduino	Dhaanish Ahmed Institute of Technology
17.06.2022	N. Gokul V.S. Devasuruthi	Monitorong server room temperatuere in data center management using IoT application	Dhaanish Ahmed Institute of Technology
17.06.2022	M. Rajeswari T. Lokesh M. Kiruthika	Emergency flying warehouse for medical supply to hospitals	Dhaanish Ahmed Institute of Technology
17.06.2022	V. Yasothan B. Sabarish	Smart helmet with quick ambulance response system using GSM and GPS technology for riders safety	Dhaanish Ahmed Institute of Technology
17.06.2022	Jero Sujith Prasad E.L. Sarath	Sewage protection monitoring system using LoRa and LoRaWAN technology	Dhaanish Ahmed Institute of Technology
17.06.2022	M. Juvairiya C. Miruthula	Modern safety surveillance system for women	Dhaanish Ahmed Institute of Technology
17.06.2022	K. Priyanka S. Sriman	Wireless Power Transfer for Charging Electric Vehicle	Dhaanish Ahmed Institute of Technology

EVENTS PARTICIPATION

Date	Name of the Student	Name of the Event/Title	Organizer
10.01.2022	P. Rohinth	Space apps challenge	Galactic problem solver
10.01.2022	J. Sivaselvan	Space apps challenge	Galactic problem solver
10.01.2022	N. Soundar	Space apps challenge	Galactic problem solver
10.01.2022	V. Panneerselvam	Space apps challenge	Galactic problem solver
14.05.2022	I. Paviya	Quiz	Kumaraguru Institutions, Coimbatore
14.05.2022	K. Soundarya	Quiz	Kumaraguru Institutions, Coimbatore
14.05.2022	G. Subika	Quiz	Kumaraguru Institutions, Coimbatore
15.05.2022	R. Uma Maheshwari	Quiz	Kumaraguru Institutions, Coimbatore
26.05.2022	V. Manibalan	Python	Hackerrank
27.05.2022	B. Priyadharshini	Quiz, YO-YO Buzzer	V.S.B. Engineering College
27.05.2022	C. Santhoshini	Quiz, YO-YO Buzzer	V.S.B. Engineering College
28.05.2022	K. Gokulakannan, A.R. Tajunnisha	Toastmaster Event	Shree Venkateshwara Hi-Tech Engineering College
28.05.2022	K. Gokulakannan	Spell Bee	Shree Venkateshwara Hi-Tech Engineering College

MoUs Signed

MoU Signing Ceremony with Sharadha Skill Academy, Coimbatore on February 09, 2022.

Sharadha Skill Academy, Coimbatore
February 09, 2022

On February 9, 2022, a Memorandum of Understanding (MoU) signing ceremony was held at Builders Engineering College, Coimbatore, with Sharadha Skill Academy. The ceremony aimed to foster student development through collaborative efforts. Such events symbolize partnerships between educational institutions and industry players, aiming to equip students with practical skills and opportunities, enhancing their readiness for professional endeavors.

Mega Tech Scientific Instruments, Coimbatore
February 09, 2022

On February 9, 2022, Builders Engineering College, Coimbatore, hosted a Memorandum of Understanding (MoU) signing ceremony with Mega Tech Scientific Instruments. The event focused on student development initiatives, indicating collaborative efforts between academia and industry to equip students with practical skills and opportunities. Such partnerships enhance students' readiness for professional endeavors and align educational practices with industry standards.

MoU Signing Ceremony with Mega Tech Scientific Instruments, Coimbatore on February 09, 2022.

MoU Signing Ceremony with Meriton Switchgears Private Limited, Erode on February 16, 2022

Meriton Switchgears Pvt. Ltd., Erode
February 16, 2022

On February 16, 2022, a Memorandum of Understanding (MoU) signing ceremony took place at Builders Engineering College, Erode, involving Meriton Switchgears Pvt. Ltd. The ceremony aimed to foster the development of students within the Electronics and Communication Engineering (ECE) Department. Such collaborations signify efforts to enhance educational experiences, providing students with practical exposure and career opportunities.

JASCON Energy, Tirchy

March 02, 2022

On March 2, 2022, a Memorandum of Understanding (MoU) signing ceremony occurred at Builders Engineering College, Trichy, with JASCON Energy. The event aimed to foster student development through collaborative efforts. Such ceremonies signify partnerships between educational institutions and industry players, ensuring students gain practical insights and opportunities, enhancing their skills and employability in relevant fields.

Signing Ceremony with JASCON Energy, Trichy on March 02

Faculty NPTEL Achievers

Name of the Faculty	Title of the Paper	Certificate
Mr. S.D. Vijayakumar, AsP/ECE	Computer Networks and Internet Protocol	
Mr. M. Prakash, AP/ECE	Microprocessors and Interfacing	

Industrial Visit

Keltron (May 17, 2022)

Keltron, a Kerala Government enterprise, offers diverse manufacturing facilities and software solutions. Students gain hands-on experience, learning processes and products.

KEL (May 18, 2022)

Kerala Electrical & Allied Engineering Co. Ltd., a Kerala Govt. enterprise, produces equipment for defense and space agencies, emphasizing practical learning in electrical engineering.

# CROSSWORD

by *Mr. V. Manibalan, III-ECE*

TEST YOUR BRAIN

Across:

2. A diagram that shows the electrical connections of the electronic components

5. Current is considered to be the movement of _____.

6. A voltage source that converts chemical energy to electrical energy

8. A flow of electric charge

10. A characteristic of a secondary cell

11. A material that is composed of a mixture of elements

12. The term used to designate electrical pressure

15. A short circuit will have a _____ current flow.

16. The part of an atom that has no electric charge

Down:

1. A voltmeter is used in _____ with the circuit.

2. A device that opens or completes an electrical path

3. A material that opposes the movement of free electrons

4. One coulomb passing a point in one second

7. A resistive component that is designed to be temperature-sensitive

8. A unit of charge that contains 6.25×10^{18} electrons

9. An atom's atomic number is determined by its number of _____.

13. A substance that is found only in its pure form.

14. It is used to measure current.
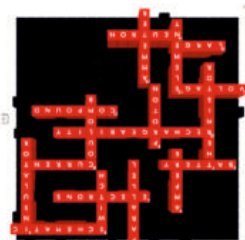
TURN YOUR HEAD TO KNOW

A Chip-Free, Wireless Electronic "Skin"

by *Ms. M. Juvairiya, IV-ECE*
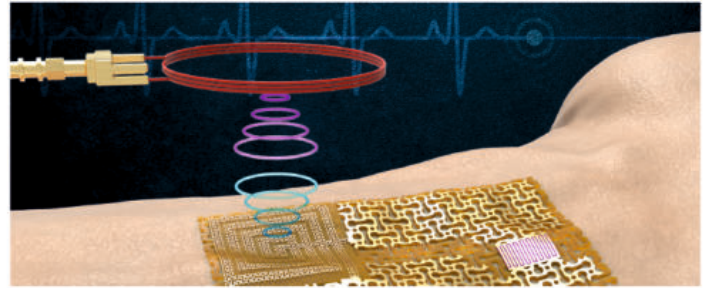
The device senses and wirelessly transmits signals that are related to pulse, sweat, and ultraviolet exposure, without bulky chips or batteries. Wearable sensors are ubiquitous, thanks to wireless technology that enables a person's glucose concentrations, blood pressure, heart rate, and activity levels to be transmitted seamlessly from sensor to smartphone for further analysis. Most wireless sensors today communicate via embedded Bluetooth chips that are themselves powered by small batteries. But these conventional chips and power sources will likely be too bulky for next-generation sensors, which are taking on smaller, thinner, more flexible forms.

Now, engineers from MIT University have devised a new kind of wearable sensor that communicates wirelessly without requiring onboard chips or batteries. Their design, detailed today in the journal science, opens a path toward chip free wireless sensors. The team's sensor design is a form of electronic skin, or "e-skin" a flexible, semiconducting film that conforms to the skin like electronic Scotch tape. The heart of the sensor is an ultrathin, high quality film of gallium nitride, a material that is known for its piezoelectric properties, meaning that it can both produce an electrical signal in response to mechanical strain and vibrate in response to an electrical impulse.

The researchers found they could harness gallium nitride's two way piezoelectric properties and use the material simultaneously for both sensing and wireless communication. In their new study, the team produced pure, single crystalline samples of gallium nitride, which they paired with a conducting layer of gold to boost any incoming or outgoing electrical signal. They showed that the device was sensitive enough to vibrate in response to a person's heartbeat, as well as the salt in their sweat, and that the material's vibrations generated an electrical signal that could be read by a nearby receiver. In this way, the device was able to wirelessly transmit sensing information, without the need for a chip or battery.

Remote Healthcare Solutions

by *Ms. M. Juvairiya, IV-ECE*

Indeed, the accelerated development and adoption of remote healthcare solutions, including telehealth technologies and remote monitoring devices, have been significant trends in recent years, including 2021. Here are some key aspects related to this trend:

Telehealth Services Expansion:

Telehealth services experienced a surge in popularity, allowing patients to consult with healthcare professionals remotely through video calls, phone calls, or online messaging.

Virtual Consultations and Diagnoses:

Healthcare providers increasingly offered virtual consultations for non-emergency medical issues, enabling patients to receive medical advice and prescriptions without visiting a physical clinic.

Remote Patient Monitoring:

The use of wearable devices and connected health technologies for remote patient monitoring became more widespread. These devices allow healthcare providers to track patients' vital signs and health metrics from a distance.

Chronic Disease Management:

Remote healthcare solutions play a crucial role in managing chronic conditions. Patients with conditions like diabetes or hypertension could benefit from continuous monitoring and timely intervention.

Digital Health Platforms:

The growth of digital health platforms and mobile applications that provide access to health information, appointment scheduling, and medication management from the convenience of a patient's home.

Telepsychiatry and Mental Health Support:

Increased adoption of telepsychiatry and virtual mental health services, addressing the growing need for mental health support, especially during the COVID-19 pandemic.

Telemedicine Regulations and Policies:

Governments and healthcare regulatory bodies adapted regulations to support and facilitate telehealth services, making it easier for healthcare providers to offer remote care.

Technological Advancements:

Integration of advanced technologies like artificial intelligence (AI) and machine learning in telehealth platforms to enhance diagnostics, treatment planning, and patient engagement.

Remote Clinical Trials:

The pharmaceutical and clinical research industries explored remote and decentralized clinical trials, leveraging telehealth technologies to conduct trials more efficiently.

Improved Accessibility:

Increased accessibility to healthcare services, especially for individuals in remote or underserved areas who may face challenges in reaching traditional healthcare facilities.

The ongoing global health situation has accelerated the acceptance and integration of remote healthcare solutions, with many expecting these trends to continue shaping the future of healthcare delivery.