DPG INSTITUTE OF TECHNOLOGY & MANAGEMENT, GURUGRAM

(Approved by AICTE, DTE & Affiliated to M.D. University (NAAC A+), Rohtak)

Department of Electronics & Communication Engineering,

ELECTROVERSE

"Exploring the universe of electronic innovation and technology"

Newsletter Vol.1, No. 1

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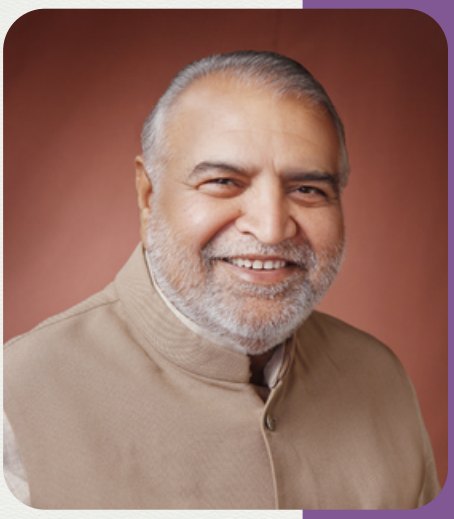
Message from the desk

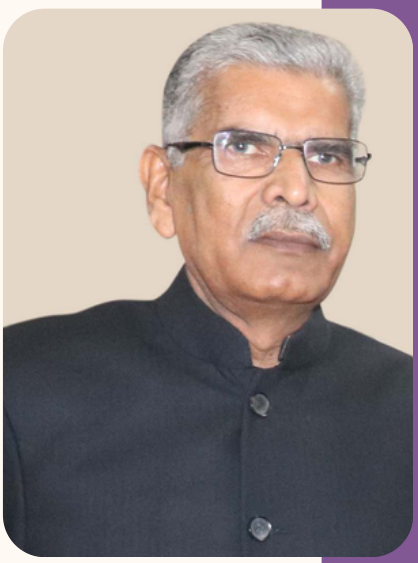


Sh. Gopi Chand Gahlot (Chairman)

DPG Institute of Technology & Management has become one of the premier institute of Technology & Management with par excellence in the region. The enormous and commendable achievements of the institute have made its existence acutely felt under “Chaudhary Harnarain Singh Educational Cultural and Charitable Trust (Regd.)”. I wish good luck to the department of Electronics and Communication Engineering for their new initiative.

Dr. Preeti Gahlot (Managing Director)

It is my pleasure to address you through this edition of the “Electroverse”, Electronics and Communication Engineering Department Newsletter. The field of Electronics and Communication is at the heart of technological advancement, driving innovation in everything from smartphones to space exploration. As we stand at the forefront of a digital revolution, the role of engineers in this domain has never been more critical. I am truly impressed by the dedication, curiosity, and ingenuity displayed by the students and faculty of ECE department. I wish all the best and look forward to seeing more achievements in the years to come.



Prof. R. C. Khuhad (Director)

I am delighted to know that the Department of Electronics & Communication Engineering, DPG Institute of Technology & Management has plans to inaugurate its Newsletter “ELECTROVERSE” on Engineer’s day, 2024. I extend my hearty congratulations to the faculty members, students,of ECE Deptt. In today’s fast-paced world, where cutting-edge technological development like 5G, IoT, AI, and advanced semiconductor technologies are reshaping the way we live and work. its worth mentioning that nearly 1.5 million students will be graduating in Engg. disciplines. However, there is big gap in educational training and industrial skill standards. This necessitates the engg. faculties to train them and devise their teaching and learning methods to train our young students so that they become skilled as per industrial demands. I encourage the whole team of ECE to continue pushing the boundaries of knowledge, innovation. I hope that this magazine may prove to be a vehicle enthuse our young students & faculty by providing information on newer developments and opportunities in the area of ECE. I wish the faculty & students of ECE success in their endevour.

Message from the desk

Prof. T. R. Narula (Registrar)

Congratulations on the successful launch of the "ELECTROVERSE", ECE departmental Newsletter! Your collective efforts are commendable and appreciable. As we look towards the future, the field of electronics and communication will continue to offer limitless opportunities for those who are ready to embrace change and lead innovation. This newsletter will provide a platform to showcase the innovation and creativity of students. I am confident that the skills and values we are developing today will position our students as leaders in the industry tomorrow. Well done, and let this be the first of many more to come!

Dr. Mukesh Yadav (Dean Academics)

Congratulations on the successful launch of the inaugural issue of Electronics & Communication Engg. Departmental Newsletter "ELECTROVERSE"!! Newsletter is not just a publication; it's evidence of the transformative impact we can achieve together. Your commitment to excellence is admirable but it's a source of inspiration for others. I really appreciate the editorial team for their commendable job. Well done!!!, and let this be the first of many more to come!

Dr. Akanksha Kulshreshtha (HOD, ECE)

I want to extend my heartfelt gratitude to the Management for providing this opportunity, support and motivation to shape our idea into this Newsletter. Thank you for fostering an environment that values knowledge sharing and continuous growth. I am truly grateful for your trust and belief in our vision. I would like to congratulate the faculty and students for their hard work and dedication in shaping this Newsletter. Let this Newsletter serve as a platform to showcase our accomplishments and inspire others.

CONTENT

VISION

To produce creative, innovative and skilled Electronics & Communication Engineer with ethical integrity, morality and technical focus to meet socio- economic needs.

MISSION

- Establish a unique learning & teaching process to provide deep knowledge to prepare the students to face the challenges of Electronics & Communication field.
- Enable student to develop skill to solve complex technological problems through innovations and group learning experiences which enhance the skills, leadership quality and employability.
- To inculcate self-learning attitude through experiential learning process and to imbibe the spirit of responsible professionalism by making the students technically sound.
- To provide a creative, motivating and innovative environment for student's technical, social and ethical development.

DEPARTMENT OVERVIEW

Welcome to the world of digital circuits, electromagnetic waves and echoing signals. The Electronics and Communication Engineering Department stands at the forefront of technological innovation, bridging the gap between cutting-edge research and practical applications. With a focus on areas such as digital communication, embedded systems, VLSI design, the department is committed to equipping students with the knowledge and skills required to excel in a rapidly evolving industry. Our dedicated faculty and modern facilities provide a dynamic environment for learning, fostering both academic excellence and research-driven advancements in technology that shape the future of communication. Join us to celebrate the launching of our departmental Newsletter "ELECTROVERSE".

The reason to choose ECE

1. Evergreen field with vast carrier opportunity
2. Global opportunities in research & Development
3. Startup and entreprenurial opportunities in Electronics & Comm. industry
4. Experiential and personalized Learning through projects, training, visits
5. Mentoring through mentors
6. Strong Alumni network for Carrier guidance.

Opportunities:

- Design Engineer
- Electronics Engineer
- Network Planning Engineer
- Customer Support Engineer
- Radio Frequency Engineer,
- Production Engineer
- Technical Director
- Testing Engineer
- Simulation Engineer
- Service Engineer
- Software Analyst.
- Drone Designing Engineers
- Robotics Engineer
- Network Security Analyst/ Consultant
- Wireless Communication Engineer

Events and Visits

Avishkaar- Intercollege Project Competition

Visit at Substation sector 32, Gurugram

Visit at DTU , Excellence Centre, Electrical Vehicles

Workshop on Electric wiring and circuit designing

Visit at BSNL, Head Quater, Gurugram

Visit to attend a Summit at IIT Sonipat

Workshop on PLC Programm. by Shoshin Tech.

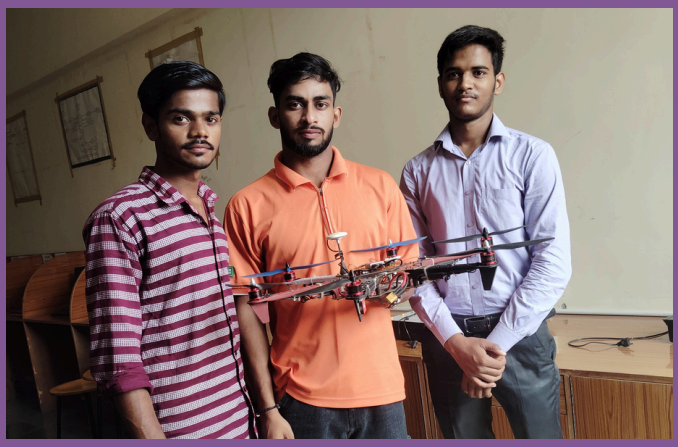
Workshop on Introduction to MATLAB

Donation Drive under Social club PRAYAAS activity

Road Safety workshop at Hero

workshop on capacity building at BrahmaKumaris retreat centre

Achievements



Drone made by ECE students

Alumni interaction and mentoring

Robotic Arm with conveyor belt

Ms. Akanksha Kulshreshtha was awarded for Academic Excellence during Covid 19 Pandemic

- Ms. Vimal has completed the 5 Days FDP on Universal Human Values- I, which AICTE organized.
- Department has Published around 8 papers in UGC-approved journals and 1 paper in Scopus indexed journal.
- ECE- 3rd Sem students completed the Agnirva space internship program conducted by ISRO.

OUR PROUD ALUMNI

B.Tech. ECE
Batch 2015-2019
PowerTek Electronics

B.Tech. ECE
Batch 2018-2022
Ganges International Pvt Ltd

Unveiling the technology

Section : 1

Engineerd for Clarity :Cameras

Source: Canon India

Canon power shot zoom

It is a compact, monocular-style camera with a 12MP sensor and a super-zoom range of 100mm-800mm. It captures Full HD video, offers image stabilization, and features Wi-Fi/Bluetooth for easy sharing. Lightweight and portable, birdwatching, and sports, but its battery life is limited to about 150-180 shots per charge.

Source: Wikipedia

Nintendo Gameboy

The Nintendo Game Boy Camera, released in 1998, is a peripheral for the Game Boy and Game Boy Color. It allows users to take and edit digital photos with a 128x112 pixel resolution, create animations, and apply simple effects. The camera is known for its retro charm and unique functionality given its low resolution and monochrome display.

Source: Reddit

Zeiss ZX1

The Zeiss ZX1 is a full-frame compact camera featuring a 37.4-megapixel sensor and a fixed 35mm f/2 Zeiss lens. It integrates Adobe Lightroom for on-camera photo editing and includes 512GB of internal storage. The camera's 4.3-inch touchscreen and minimalistic design offer an intuitive interface, while connectivity options include Wi-Fi and Bluetooth.

Source: Swatch Group

Panchromatic

Panchromatic cameras capture high-contrast black-and-white images by recording light across the entire visible spectrum, sometimes extending into ultraviolet (UV) and infrared (IR). Known for their high resolution, these cameras are widely used in aerial and satellite imaging, remote sensing, astronomy, and military surveillance. They excel at capturing detailed images for terrain mapping, environmental monitoring, and reconnaissance. Historically, panchromatic film revolutionized photography and cinema by accurately depicting scenes in grayscale.

Source: Swatch Group

Omega Scan O vision

Omega's Scan 'O' Vision ULTIMATE is a state-of-the-art photofinish camera being introduced at the Paris 2024 Olympics. It captures up to 40,000 digital images per second, providing unprecedented precision in determining race outcomes. This new system replaces the older MYRIA, which captured 10,000 images per second.Additionally, Omega's computer vision technology will be used across various sports to analyze athlete performance in real-time without physical sensors. It tracks movements, techniques, and speeds in sports like volleyball, tennis, and gymnastics, enhancing both judging and viewer experiences

Crafted by:Tushar and Kashish (ECE-3rd Sem)

Section: 2

Flying Robots :Drones

Source: Firstpost

Amazon Prime Air

Amazon is focused on fast, autonomous delivery for consumer goods, aiming for delivery within 30 minutes of an order being placed.Their drones are equipped with advanced navigation systems, machine learning, and sophisticated sensors for obstacle detection and avoidance. These drones are designed for delivering packages weighing up to 5 pounds over a distance of 15 miles.Amazon has heavily invested in automation and scaling their service for urban areas, making it potentially the largest global operation in the near future.

Source: The Economic Times

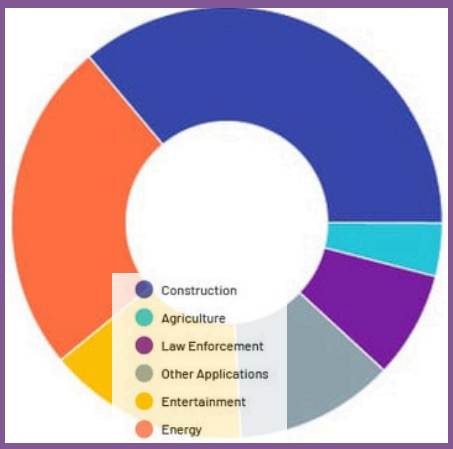
Sky catch Explore1

The Skycatch Explore1 drone is a specialized tool designed specifically for use in construction and large-scale industrial projects. It is designed to capture highly accurate aerial imagery for detailed site surveys and 3D mapping. It offers autonomous flight capabilities, allowing for fully automated data collection, which saves time and reduces the need for manual piloting. Built to withstand challenging environments, making it suitable for rugged construction sites. Equipped with extended battery life to cover large areas in a single flight. Explore1 is used for creating accurate topographical maps and 3D models of construction sites, enabling better planning and resource management. It helps construction managers monitor the development of projects in real-time, ensuring work is on schedule.

Source: DRDO

Rustom-1

Rustom-1 is an unmanned UAV being developed by DRDO for the three defence services namely Indian army, Indian navy and Indian airforce. RUSTOM-1 is an all composite, 800 kg class Short Range Remotely Piloted Aircraft System (SR-RPAS) having capabilities of Intelligence, Surveillance, Reconnaissance, Target Acquisition/ Tracking and Image Exploitation.



Source: Mordor Intelligence

IOTECH Agribot MX

Agribot MX Drone is an invention by Iotechworld and this drone is certified by DGCA. Regarding structure, it is a hexacopter, which means it has 6 wings, enabling advanced flight modes. Its foldable design makes it easy to carry and transport from one place to another. It helps the farmers monitor it through an online dashboard. Also, its quick spray techniques and outstanding battery life make it stand out

Source: IOTECH World Avigation

Crafted by: Muskan and Dheeraj ECE(3rd Sem)

Bits of Sentiments

Ms. Himanshi (ECE-3rd Sem)

I am excited and thrilled about launching our Newsletter " ELECTROVERSE". This Newsletter is the result of our collective efforts and teamwork. Let's hope for more exciting and interesting issues in this newsletter in future.

Mr. Rahul (ECE- 7th Sem)

It's an amazing experience to collect the information and frame the ideas on the canvas of this newsletter. I feel privileged to be the part of this issue of "ELECTROVERSE". I wish this platform proves an effective platform for sharing knowledge and ideas.

Mr. Prasoon Tripathi (ECE-5th Sem)

It's a new milestone for our department. we are eagerly waiting for the release of our newsletter. I would like to appreciate the editorial team for their teamwork and great ideas.

Mr. Vansh (ECE-3rd Sem)

It was a great learning experience to craft each page of this newsletter. I am excited for the launching of our newsletter. Looking for more such opportunities in future.

Ms. Vimal (Asstt. Prof., ECE)

Great initiative taken by our department to provide a platform for showcasing talent. This newsletter will give an amazing experience to our students as they are in the editorial team. We are exciting for the release of first issue.

Mr. Om Singh Saini (ECE- 3rd Sem)

I want to congratulate the whole department for their hard work and dedication. we are thrilled for the release of our Newsletter "ELECTROVERSE". This Newsletter contains the latest developments in ECE technology.

Editorial team board

Dr. Akanksha Kulshreshtha
(HOD, ECE)

Ms. Vimal
(ECE)

Ms.Gulrukh Shahab
(ECE)

Muskan Saini
3rd Sem

Kashish Arya
3rd Sem

Dheeraj Vashishta
3rd Sem

and other members of ECE department