



# GALGOTIAS COLLEGE OF ENGINEERING & TECHNOLOGY

**EC-NEWSLETTER 2023-24**

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“EC-Newsletter” is the Bi-annual newsletter of the Department of ECE, Galgotias College of Engineering and Technology, Greater Noida highlighting the accomplishments of our students, faculty and staff. It mainly focuses on the major events organized, student and faculties research publications, achievements, campus placement, industrial interactions, industrial visits, higher studies details etc.



## Department of Electronics & Communication Engineering

**Chief Editor**

**Dr. R Swaminathan**

**Faculty Editor**

**Mohd Alamgir khan**

**Student Editor**

**Anushka Maurya**

## MESSAGE FROM HEAD OF THE DEPARTMENT



Welcome to the Department of Electronics and Communication Engineering!

At the heart of technological innovation, our department is dedicated to providing a dynamic and enriching educational experience. We are committed to cultivating a learning environment that blends theoretical knowledge with practical application, preparing our students to excel in the fast-paced and ever-evolving field of Electronics and Communication Engineering.

Our department is equipped with state-of-the-art laboratories and cutting-edge research facilities, enabling both our students and faculty to engage in pioneering research and hands-on projects. Our faculty members are not only passionate educators but also active researchers, leading advancements in key areas such as Wireless Communication, Microwave Engineering, VLSI Design, and Signal Processing.

We believe in the power of collaboration and have forged strong ties with industry partners to ensure our curriculum stays relevant and our students gain valuable real-world experience. Our graduates are part of a vibrant global alumni network, making significant contributions to industry, academia, and research worldwide.

As we continue to grow and evolve, our mission remains steadfast: to nurture the next generation of engineers, drive impactful research, and contribute to the technological progress of society. I invite you to explore our website, learn more about our programs, and join us in our journey towards excellence.

Thank you for visiting, and I look forward to welcoming you to our vibrant ECE community.

Best Wishes,

Dr. R Swaminathan

## About ECE Department

Electronics and Communication Engineering is headed by Dr. R Swaminathan and has 41 faculty members who have received their higher education from top-notch universities. The faculty members of this department are consistently doing well in teaching and research. The department offers B.Tech (Electronics and Communication Engineering) with 180 intake.

Presently, the B.Tech ECE program has been accredited by the National Board of Accreditation.

The B.Tech program attracts the brightest students in the state every year. The placement record of the department has always been impressive. Almost 100% of the students get jobs from the campus placement and many of them are getting it in core companies every year. We encourage the students to do design and research-based projects during their B.Tech degrees.

The department has state-of-the-art laboratories in almost all the areas of Electronics and Communication that has the latest simulation tools to cater to various specializations and are equipped with facilities for measurement, characterization, and synthesis of experimental as well as theoretical results. The department is actively involved in R&D activities and regularly publishes its research in reputed Journals and Conferences. The research areas include Wireless Communication and Networks, Microwave Engineering, Antenna design, VLSI Design, Signal and Image Processing, Communication Engineering, and Embedded Systems.

The Department holds MoU's with distinguished Organizations and Industries, mentioning a few include Huawei - ICT Academy, 3ST Technologies Pvt. Ltd., Noida, Maven Silicon, Bengaluru, Department of Electronics - Pattern Recognition and Machine Intelligence Group, Shantou University, China. It prides in having students placed in reputed companies with smart package and also focuses on developing and escalating the skill of analysis, designing and problem solving, amongst students required to extend their career growth.

A Center of Excellence (CoE) in IoT typically aims to establish a specialized and highly proficient team or facility focused on the effective and efficient use of IoT for various engineering and scientific applications. The primary objectives of a IoT Center of Excellence may include:

- Facilitate collaboration with other CoEs, departments, and external entities.
- Host knowledge-sharing sessions, workshops, and seminars on IoT-related topics
- Provide training programs and resources to enhance the IoT skills of team members.
- Encourage innovation in IoT applications for solving complex engineering challenges.

COE-RF Circuits and Antenna Simulation aim to provide students with practical experience and understanding in the design, analysis, and simulation of high frequency circuits. The learning objectives are as follows:

Gain knowledge about the key components used in RF circuits, such as antenna, amplifiers, filters, mixers, and oscillators.

Use simulation tools to model and analyze the performance of antennas in different scenarios. This may include optimizing antenna parameters for specific applications.

Understand the fundamental principles of antennas, including types, radiation patterns, and impedance matching. Explore the design and analysis of basic antenna structures.

#### Drone Technology and Ham Radio

To encourage the students to gain the knowledge and work for the application in aerial photography, agriculture, plant protection, micro selfie, express transportation, disaster rescue, wildlife observation, monitoring infectious diseases, mapping, news reporting, power inspection. Surveillance in areas and terrains where troops are unable to safely go.

Amateur radio, also known as ham radio, is the use of the radio frequency spectrum for purposes of non-commercial exchange of messages, Learning and practicing ham radio skills can be intellectually stimulating. It involves understanding radio equipment, antennas, propagation, and communication protocols. Ham radio provides fast and reliable communication during emergencies

# INSTITUTE VISION & MISSION

## Vision

To be a leading educational institution recognized for excellence in engineering education and research producing globally competent and socially responsible technocrats.

## Mission

**IM1:** To provide state of the art infrastructural facilities that support achieving academic excellence.

**IM2:** To provide a work environment that is conducive for professional growth of faculty and staff.

**IM3:** To collaborate with industry for achieving excellence in research, consultancy and entrepreneurship development.

# DEPARTMENT VISION & MISSION

## Vision

To be recognized as a center of excellence in Electronics and Communication Engineering for the quality and global education, interdisciplinary research and innovation, to produce committed graduates who can apply knowledge and skills for the benefit of society.

## Mission

**DM1:** To provide quality education by providing state of the art facility and solutions for global challenges.

**DM2:** To provide a framework for promoting the industry-institution collaboration and empower the students in interdisciplinary research.

**DM3:** To transform students into socially responsible, ethical and technically proficient engineers with innovative skills and usage of modern tools.

**DM4:** To make the students corporate ready with spirit and necessary interpersonal skills.

## PROGRAM OUTCOMES

- P01 Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- P02 Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- P03 Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- P04 Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- P05 Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- P06 The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- P07 Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
- P08 Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
- P09 Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- P010 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
- P011 Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
- P012 Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent And life-long learning in the broadest context of technological change.

## PROGRAM SPECIFIC OUTCOMES

**By the completion of Electronics & Communication Engineering program the student will be able to:**

**PSO1:** Design and develop models for analog & digital electronic circuits and systems.

**PSO2:**Design, develop and test electronic and communication systems for applications with real Time constraints.

## PROGRAM EDUCATIONAL OBJECTIVES

<b>PEO 1</b>	Graduates will excel in their career by acquiring knowledge in the field of Electronics and Communication Engineering with the usage of modern tools and emerging technologies.
<b>PEO 2</b>	Graduates will have the capability to analyze real life problems of the society and produce innovative solutions.
<b>PEO 3</b>	Graduates exhibit professionalism, ethical attitude, communication skills and team work in core engineering, academia and research organizations through professional development and lifelong learning.

## Webinar on How to Secure an Internship Abroad

The GNIX Society, in collaboration with the Department of Electronics and Communication Engineering, successfully conducted a webinar titled "How to Secure an Internship Abroad" on Sunday, October 1st, via Google Meet. Anvesh Pandey, a final-year ECE student, who shared his experience interning at INSA, Lyon, France, led the session. Anvesh provided valuable insights on the entire process of securing an international internship, from early preparation and application strategies to overcoming challenges like cultural adaptation and language barriers. The event was well-attended, with participants engaging in a lively Q&A session, leaving them inspired and better prepared for their own international opportunities.



## Expert Talk on Emerging trends of Wireless communication used for space technology

On October 13, 2023, the Department of Electronics and Communication Engineering hosted an expert talk by Dr. Pravin Kumar, Associate Dean of Research & Development at KIET, Ghaziabad. Organized by the Domain Heads and Core members of the GNIX Society, the lecture focused on innovative techniques in wireless communication and their applications in space technology. Students were provided with hands-on training using relevant tools, and introduced to the ISRO and Antariksha portals for free, government-supported mock tests and certification courses. Dr. Kumar's presentation also delved into the semiconductor field, offering valuable insights that



sparked interest and guided students in their future research and career pursuits. The event concluded with an engaging Q&A session, further enriching the educational experience for all attendees.

## Diwali Celebration

The Department of Electronics and communication engineering organised Diwali celebration on 09 November 2023. The department was beautifully decorated with twinkling lights and intricate rangoli designs. The event began with the traditional lighting of diyas, symbolizing the triumph of light over darkness. Fun activities, including games and contests, added excitement, blending tradition with modernity. This unique celebration reflected the department's innovative spirit while honoring cultural heritage. It fostered a sense of community, bringing students and faculty together in a joyful and memorable event that celebrated both tradition and technology.



## SEMINAR ON IoT Application for Edge AI.



On November 21, 2023, The Department of ECE, in collaboration with the GNIX Society, organized a seminar on "IoT Applications for Edge AI". The session focused on advanced IoT technology and its integration with AI and ML for data analysis. Various approaches to AI and ML were explored, providing insights into their practical applications. The seminar also covered coding and simulation using the Nanoedge and STMicroelectronics platforms,

offering participants a comprehensive understanding of cutting-edge tools in IoT and edge AI.

## ALUMNI TALK

On December 21, 2023, the Department of Electronics & Communication Engineering, in collaboration with the Genix Society, hosted an insightful Alumni Talk as part of the "College to Corporate" series. The event featured Navneet Singh, a Design Engineer at Zender INCUSA, who shared his valuable industry experience with 145 students. The session was designed to equip students with knowledge about the key technology rounds essential for securing

placements in core industries. Singh provided an in-depth overview of the technical challenges and expectations in the corporate world, helping students bridge the gap between academic learning and professional demands. The event, which ran from 3:00 PM to 5:00 PM, received positive feedback for its practical insights and relevance to the current job market. This session is part of a broader initiative by the department to prepare students for successful careers in the engineering sector. Stay tuned for more events aimed at enhancing student readiness for corporate challenges!



## GUEST LECTURE on Sensor for Health care and Agriculture system

On December 26, 2023, Dr. Ajay Beniwal from the Electronics and Nanoscale Engineering Division at the University of Glasgow, UK, delivered an insightful guest lecture on "Sensors for Health Care and Agricultural Systems." The event saw an impressive turnout, with 230 students in attendance. Dr. Beniwal's presentation provided a comprehensive overview of the latest advancements in sensor technology and its applications in both health care and agriculture, offering valuable knowledge and sparking engaging discussions among attendees.

## **Faculty Publications:**

### **Faculty Publications in Journals**

<b>S. No.</b>	<b>Author(s), in sequence as mentioned in the paper</b>	<b>Title</b>	<b>Journal and Publisher Name</b>	<b>Volume, Issue, ISSN, Page No., Year of Publication</b>
1	Saurabh Katiyar, Rajveer S Yaduvanshi	Tri-Band High Gain Polarization Reconfigurable Split Ring Resonator Based Dielectric Resonator Antenna for Terahertz Applications	Optical and Quantum Electronics, Springer Nature	Optical and Quantum Electronics, Springer Nature
2	Nitin Garg, Ashish Pandey, Avanish Kumar Pandey, Ashutosh Tyagi, Aniket Pratap Singh	Impact of temperature variation on linearity parameters of nanotube surrounding gate (NT-SG) MOSFETs	International Journal of Numerical Modelling, Wiley	International Journal of Numerical Modelling, Wiley
3	M. Kumar, Sachin Kumar, S. Chakrabartty, A. Poulouse, H. Mostafa, B. Goyal	Dispersive Modeling of Normal and Cancerous Cervical Cell Responses to Nanosecond Electric Fields in Reversible Electroporation Using a Drift-Step Rectifier Diode Generator	Micromachines	vol. 14, no. 12, Article ID 2136, 2023

## **AWARDS WON BY STUDENTS**

<b>Year</b>	<b>Name of the award/ medal</b>	<b>University/State/National/ International</b>	<b>Sports/ Cultural / Technical</b>	<b>Name of the student</b>	<b>Position</b>
2023	Indian Hackathon Organized by Google Cloud-2023	National Level	Technical	Mr. Masood Asim	First
2023	Table Tennis State Level Organized by AKTU.	National Level	Sports	Preetam Kumar Yadav	Second

Eminent Recruiters:

