

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING



Presents

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Guru Ghasidas Vishwavidyalaya
Bilaspur, Chhattisgarh

गुरु घासीदास विश्वविद्यालय
बिलासपुर, छत्तीसगढ़

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THE BEST IS YET TO COME

Embark on a captivating journey into the ever-evolving realm of electronics and communications, where the boundaries of innovation are pushed to extraordinary heights. Imagine a future where technology seamlessly integrates into our lives, transforming how we communicate, experience, and interact with the world. Connections once deemed impossible become reality, bridging the gap between imagination and implementation.

From the transformative potential of quantum computing to the advent of 6G networks and beyond, we are on the cusp of a revolution. This transformation reshapes society, empowers industries, and opens doors to innovations yet to be imagined. The field of electronics and communications drives advancements in AI, IoT, space exploration, and biomedical innovations. Picture a world where smart devices anticipate our needs, autonomous vehicles ensure safety, and sensors monitor health in real time — all made possible through groundbreaking progress.

Our team, The Flip Flops, is here to guide you through this exciting era of change. As the voice of the ECE Department at SoS(E&T), GGV, we aim to keep you informed about updates, showcase advancements, and provide resources to explore the electronics domain. Whether it's understanding emerging technologies or delving into groundbreaking research, we're committed to equipping you with the knowledge to thrive.

The narrative of progress is an odyssey of discovery, marked by limitless potential. Join us as we uncover opportunities that redefine industries and reimagine the future. The Flip Flops is here to keep you inspired and ready for this revolution. The best is yet to come, and the possibilities are boundless. This is the era of electronics and communications — a golden age poised to shape a brighter, more connected future.



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From The Desk Of Hon'ble Vice-Chancellor

Prof. Alok Kumar Chakrawal
Vice-Chancellor
Guru Ghasidas Vishwavidyalaya

As we reflect on the role of engineering in shaping the future, we are reminded of the timeless words of India's first engineer, Mokshagundam Visvesvaraya: 'Science is about knowing, and engineering is about doing'. In line with this thought, all the endeavors of the ECE department from the School of Studies in Engineering and Technology are proudly presented in this quarterly newsletter, Flip - Flops. This edition highlights events, faculty accomplishments, student achievements, and celebrates every milestone, no matter how small. These recognitions inspire and nurture our students, encouraging them to strive for excellence.

I appreciate the efforts of the Dean of SoS (E&T), the Head of the ECE Department, and the dedicated faculty for fostering such an enriching environment for our future engineers. My heartfelt congratulations to the team behind Flip - Flops. May this be the beginning of a new era of learning and innovation!



Greetings From The Registrar

Prof. A. S. Ranadive
Registrar,
Guru Ghasidas Vishwavidyalaya

In the digital world that we now inhabit, technological advancements are dynamic and unplanned. Thanks to the world's rapid progress, young brains have a lot of opportunities to reach new heights. I want to express my gratitude to the brilliant and dedicated members of our academic who are working to make the Guru Ghasidas Vishwavidyalaya's School of Studies of Engineering and Technology a bastion for nurturing diligent students in India. The department of Electronics and Communication Engineering has a distinguished history of success. We are certain that the new initiative to publish a quarterly ECE newsletter "Flip-Flops" will contribute to all round growth of our exceptional human resources.



Message From The Dean, SoS (E&T)

Prof. Sharad Chandra Srivastava
Dean, SoS(E&T)
Guru Ghasidas Vishwavidyalaya

I am pleased to extend my heartfelt congratulations to the editorial team, contributors, and researchers for the publication of this three-monthly News Bulletin focused on Flip-Flop technology in the field of Electronics and Communication Engineering. The Flip-Flop is a fundamental building block of digital systems, and advancements in this area have a profound impact on the future of computing, communication, and control systems.

This News Bulletin serves as a testament to the hard work and dedication of our academic community in exploring cutting-edge technologies and pushing the boundaries of innovation. It is crucial that we continue to foster an environment of research and collaboration, allowing our students, faculty, and researchers to contribute to the ever-evolving landscape of technology.

I am confident that this publication will inspire further studies and innovations in the domain, making significant contributions to both academia and industry. I look forward to witnessing the new developments that will emerge from these efforts and the continued excellence of our institution.



Ambition Of The Head Of The Department

Dr. Sudakar Singh Chauhan
HOD, ECE Department
Guru Ghasidas Vishwavidyalaya

As the Head of the Department of Electronics and Communication Engineering, I am proud to lead a team dedicated to establishing our department as a center of academic excellence. Our mission is to deliver high-quality education while fostering a culture of innovation and critical thinking among our students. We are deeply committed to the holistic development of our students, enhancing their leadership, teamwork, and problem-solving skills through various workshops, seminars, and extracurricular activities. Additionally, we prioritize building strong collaborations with industry partners to provide opportunities for internships, projects, and knowledge-sharing, ensuring our students acquire practical skills and real-world exposure. To support academic and professional growth, we continuously upgrade our laboratories and facilities, creating a state-of-the-art learning and research environment. Our active collaboration with leading companies and organizations further strengthens campus recruitment and internship opportunities, equipping our students to excel in their careers and contribute to the ever-evolving field of electronics and communication engineering.

ARTICLE SECTION

FACULTY ARTICLE

Prevalence and repercussions of stress and mental health issues on primary and middle school students: A Bibliometric Analysis

Dr. Rajiv Dey
Associate Professor, ECE



Objective: This study analyzes the presence and reverberations of stress, anxiety, and other mental health issues on primary and middle school students using bibliometric analysis. The aim of this study is to map the research landscape by statistically analyzing existing literature and identifying key themes, trends, and research hotspots in the domain of stress in students. This study also presents analysis related to top contributing countries, journals, authors, citations, and collaboration networks.

Method: A total of 1,335 publications from 1962 to 10 September 2023 were included in this study using the Web of Science, PubMed, and Scopus databases. The steps involved in the bibliometric study included data collection, cleaning, and various analyses such as performance analysis, citation analysis, and network analysis. Biblioshiny by RStudio and Microsoft Excel were used for bibliometric analysis to determine the collaboration between countries and authors and to explore keyword analysis and thematic evolution.

Results: The findings show that China and USA have contributed the highest number of publications. Frontiers in Psychology with 50 publications turns out to be the

most prominent journal. The study presents the thematic evolution and the trend topics in this research domain. Some of the trend topics are stress, test anxiety, bullying, depression, cyberbullying, virtual reality, mathematics anxiety, childhood maltreatment and self-compassion, primary school, and middle school. The paper also highlights the prominent authors and their collaboration network.

Discussion: The study has highlighted the various reasons for stress and its potential repercussions on students. This information can be used to help parents, teachers, and the school administration to spot the most susceptible group of students who need immediate intervention to address various mental health issues. We see a gradual progress in the research areas being covered under this domain. More relevant areas of concern related to stress are being explored with time. With the technological advancement and the vast unmonitored internet usage (especially for primary and middle school students), the stress caused by cyberbullying and peer victimization has also become an important topic of research in later years.

ALUMNI ARTICLE

Speaker Verification vs. Speaker Identification: Technical Overview, Classification Techniques, and Applications.

Abhijeet Agrawal
Alumni ECE



Speaker recognition, a core biometric technology, leverages unique vocal characteristics for identity tasks. It is divided into speaker verification and speaker identification, each with distinct processes and requirements.

Speaker Verification

This 1:1 comparison task confirms whether an input voice matches a claimed identity. It is treated as a binary classification problem, where the system outputs "accept" or "reject" based on similarity scores. Techniques include:

- **Feature Extraction:** Methods like MFCC (Mel - Frequency Cepstral Coefficients), PLP (Perceptual Linear Prediction), or spectrogram analysis and more.
- **Modeling:** Classical techniques use GMM - UBM (Gaussian Mixture Models with Universal Background Models), while modern approaches use deep learning models such as Siamese or Triplet networks for similarity learning, Time delay Neural network and more.

Speaker Identification

In this 1:N task, the system determines the speaker's identity from a database of voiceprints. This is modeled as a multi-class classification problem, where the system assigns the voice to one of many speaker classes. Key steps include:

- **Feature Embedding:** Extract embeddings using models like i-vectors, x-vectors, or transformer-based encoders.
- **Classification:** Softmax-based neural networks or probabilistic models identify the speaker with the highest matching score.

Implementation Steps

1. **Data Collection:** Gather diverse and high-quality voice samples. Ensure balanced datasets for multi-class classification to avoid bias.
2. **Preprocessing:** Normalize input data, remove noise, and enhance voice features using filtering techniques.
3. **Training:** Train binary classifiers (e.g., logistic regression or neural networks) for verification and multi-class classifiers (e.g., deep neural networks) for identification.
4. **Anti-Spoofing:** Integrate anti-spoofing techniques like detecting spectro-temporal anomalies in synthetic or replayed voices.

Applications:

- **Verification:** Secure banking, access control, and voice-based IoT systems.
- **Identification:** Surveillance, forensic investigations, and customer service call routing, attendance etc.

Challenges:

- **Noise Robustness:** Use noise-reduction techniques and train models on noisy data.
- **Spoofing Attacks:** Deploy algorithms like convolutional neural networks (CNNs) to distinguish biological from synthetic voices.
- **Intra-Speaker Variability:** Use augmentation techniques during training to account for voice changes.

By framing speaker verification as a binary classification and identification as a multi-class classification, systems can be designed with precision.

SCHOLAR ARTICLE

Tightly coupled MIMO with internal self-decoupled E-shaped design arms for 5G mobile hand-set

Aditi Sharma
PhD Scholar, ECE



Abstract: In this article a closely packed circularly polarized MIMO antenna is proposed for 5G NR n48/n78 frequency band. Here, a E-shaped antenna with modified arm along with the edge to edge distance between the radiator is $0.0024\lambda_0$ (0.2mm) at 3.62GHz and defected ground structure (DGS) was proposed. The proposed design resonated in the range of 3.3GHz to 3.6 GHz with the minimum isolation of 15 dB and peak gain of 4.2 dBi. In this design, the modified arms, via and DGS technique are used to enhance the isolation. To verify the proposed design, diversity parameters, efficiency, radiation pattern, in-hand performance and SAR are calculated which shows that the proposed closely packed circularly polarized MIMO design is a good candidate for 5G mobile communication.

In the present work, no additional design is used to achieve circular polarization as well as to enhance the isolation therefore it does not required any extra space to decouple the radiators. Here, the FR4 material is used to design the antenna element and coaxial feeding technique is used to feed the radiator. The design was fabricated to verify the simulation results. Here, the S-parameters, gain, axial ratio, radiation pattern and efficiency of the design was measured using a two-port vector network analyzer. Figure 1 shows the proposed design along with fabricated prototype and test environment.

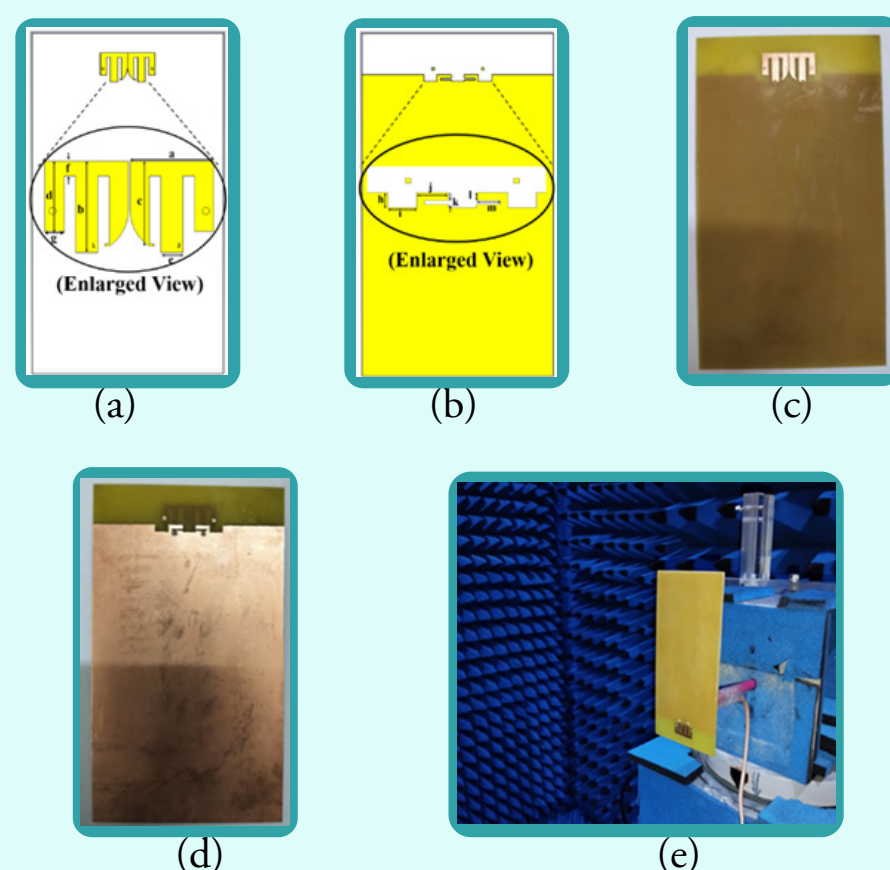


Figure 1 (a) Front view, (b) Back view of the design, (c) Antenna element of the prototype, (d) Ground plane of the prototype, (e) Experimental environment. $a = 9.8$ ($0.12\lambda_0$), $b = 10.75$ ($0.13\lambda_0$), $c = 10$ ($0.12\lambda_0$), $d = 8.25$ ($0.09\lambda_0$), $e = 2.6$ ($0.03\lambda_0$), $f = 1.75$ ($0.02\lambda_0$), $g = 2.25$ ($0.027\lambda_0$), $h = 2.5$ ($0.03\lambda_0$), $i = 4.8$ ($0.057\lambda_0$), $j = 5.25$ ($0.06\lambda_0$), $k = 0.75$ ($0.009\lambda_0$), $l = 1.25$ ($0.015\lambda_0$), $m = 4$ ($0.19\lambda_0$) (in mm).

The measured results shows the good agreement with simulation result as the design was resonates in the range of 3.2 GHz to 3.96GHz with the minimum isolation of 15dB as shown in Figure 2 (a). The plot of axial ratio is shown in Figure 2 (b) which verifies that the proposed design is circularly polarized in the range of 3.3 GHz to 3.83 GHz. Figure 2 (c) shows the gain of the design which varies from 3.2dBi to 4.2dBi in the range of 3.3GHz to 3.9GHz with a peak gain of 4.2dBi at 3.62 GHz and Figure 2 (d) simulated efficiency is 86.5% with measured efficiency of 83%.

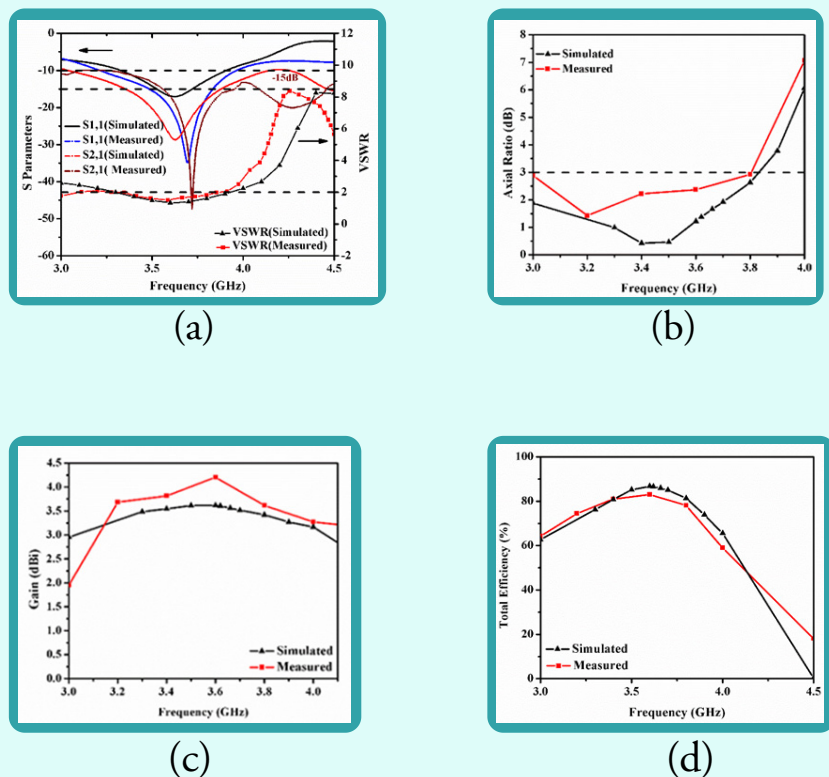


Figure 2 (a) *S* parameters and VSWR, (b) Axial ratio, (c) Gain, (d) Total efficiency of simulated design and fabricated prototype.

Figure 3 shown below gives the far-field radiation pattern of the proposed design at 3.62 GHz. Here, the bi-directional behaviour of E-plane and H-plane radiation pattern were observed. The diversity parameters such as ECC and DG were also examined to analyse the antenna performance. The value of ECC should be less than 0.5, and DG it should be 10dB but for the proposed design ECC is 0.008 and DG is 9.9dB.

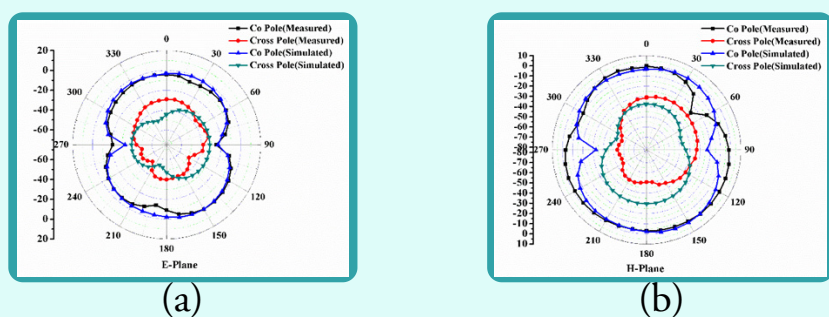


Figure 3 Measured and simulated radiation pattern (a) E-plane (b) H-plane at 3.62GHz.

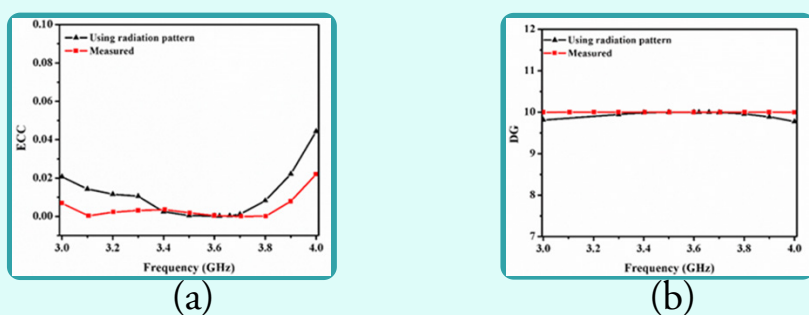


Figure 4 Comparison of simulated and measured (a) ECC (b) DG.

For handheld devices it is necessary to check the antenna's behaviour under user scenario. Figure 5 shows the in-hand image and S parameters of the proposed design. Another critical parameter which is essential to check is specific absorption rate (SAR). The value of SAR should be less than 2W/Kg and for the proposed design it is 1.8W/Kg as shown in Figure 5.

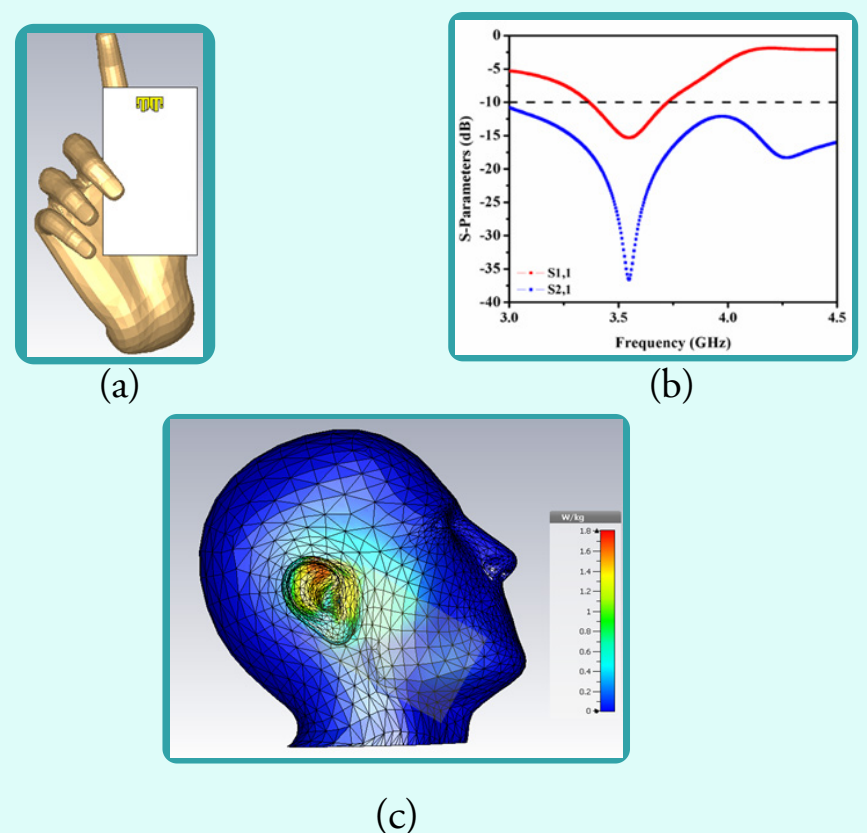


Figure 5 (a) In-hand (b) S-parameters (c) SAR analysis at 3.62GHz

Conclusion/Outcomes:

In the this article tightly coupled MIMO antenna is proposed in which the radiators are placed side by side in the distance of $0.0024\lambda_0$ (0.2mm) at 3.62GHz. In the proposed design the minimum isolation of 15 dB is achieved without using any additional structure. Here, modified arms, shorting pins and DGS are used to enhance the isolation from 6.3dB to 15 dB as well as to achieve the circularly polarized response. The essential parameters such as diversity parameters, gain, efficiency, in hand behaviour as well as measured behaviour were also observed which shows that the proposed design is a good candidate for 5G mobile communication devices.

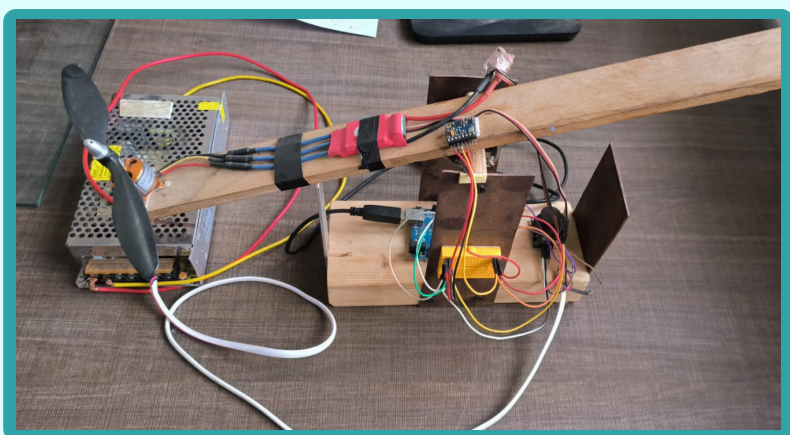
STUDENT ARTICLE

The Role of Filters in Embedded Systems for Dynamic Environments

AM Surya
Final Year, ECE



Embedded systems enable real-time processing and control in a variety of applications such as robotics, automotive systems, and aerospace engineering. These systems often operate in dynamic environments where noise and disturbances can compromise performance and accuracy. Dynamic systems are inherently subject to external and internal noise. External noise can arise from environmental factors such as vibrations, electromagnetic interference, or unpredictable events like wind. Internal noise, on the other hand, is often caused by mechanical vibrations, sensor inaccuracies, or electrical fluctuations within the system. Left unchecked, these disturbances can degrade the performance of an embedded system, leading to erratic or unreliable behavior. Filters are mathematical algorithms or hardware components designed to separate useful signals from noise. In embedded systems, filters play a crucial role in ensuring accurate sensor readings. For instance, in our project on single-axis PID control for roll dynamics, the vibrations generated by a BLDC motor created significant noise in the tilt angle measurements obtained from the MPU6050 IMU sensor. This noise, if unfiltered, would have led to unstable control responses and oscillations in the system, rendering the PID controller ineffective.



To address this issue, we implemented a Kalman filter in the control code.

By incorporating the Kalman filter, we effectively denoised the sensor output, enabling the PID controller to stabilize the plank at the desired angle. This highlights how filtering transforms raw, noisy data into actionable information, ensuring system stability and performance.

Dynamic environments are ubiquitous in real-life applications. Consider a quadcopter navigating through turbulent air. Without filters, the noise in the IMU sensor readings could destabilize the quadcopter. In medical devices, such as wearable health monitors, filters remove electrical noise from ECG signals, enabling precise diagnostics. The use of filters extends beyond noise reduction. They improve the efficiency of embedded systems, enabling real-time decision-making even in the presence of disturbances. Filters also enhance the robustness of control algorithms like PID, allowing them to adapt to dynamic and unpredictable environments. Filters are indispensable in embedded systems, especially in dynamic systems where noise and disturbances are unavoidable. By incorporating filtering techniques such as the Kalman filter, engineers can ensure reliable performance and stability. Our project on single-axis PID control demonstrated the transformative impact of filters, illustrating how they bridge the gap between raw data and actionable control in dynamic environments. Filters are not just tools for noise reduction—they are the foundation of precision and reliability in embedded systems.

FACULTY ACHIEVEMENT

- **Dr. Prabira Kumar Sethy and Mrs. Pragati Patharia:** Published a research paper titled, **“Advancements and Challenges in Image-Based Diagnosis of Lung and Colon Cancer: A Comprehensive Review,”** in Sage Journal, Cancer Informatics, Volume 23, Published October 16, 2024.
- **Dr. Prabira Kumar Sethy, Mr. Chandan Tamrakar, and Mrs. Beaulah Nath:** Published a research paper titled, **“Efficient Lightweight CNN for Thyroid Nodule De Scans with Resource Constraints,”** in the Ninth International Conference on Information and Communication Technology for Competitive Strategies (ICTCS).
- **Mr. Chandan Tamrakar:** Participated in the AICTE-recognized faculty development programme on **“Applications of AI in Electronics System Design,”** conducted by the “Information Management and Emerging Engineering Department” from December 2 to December 6, 2024, at NITTTR, CG.
- **Dr. Soma Das, Mr. Sumit Kumar Gupta, and Mrs. Aditi Sharma:**
 1. Published an article titled, **“Quad Element Metamaterial-Based Antenna for C and X Band Application with Improved Diversity Characteristics,”** in Gazi University Journal of Science (Impact Factor 1).
 2. Published an article entitled, **“Tightly Coupled MIMO with Internal Self-Decoupled E-Shaped Design Arms for 5G Mobile Handset,”** in Microwave and Optical Technology Letters Journal (Impact Factor 1).
- **Dr. Nikita Kashyap:**
 1. Presented a paper titled, **“Smart Farming: IoT-Based Precision Agriculture and Crop Management,”** during the ICSSR-sponsored seminar, "Implementing AI Solutions in Agriculture: Navigating Challenges and Harnessing Opportunities for Viksit Bharat@2047," held on November 18, 2024, at IIT Guwahati.
 2. Participated in the AICTE-recognized online Faculty Development Programme on **“Applications of AI in Electronics System Design,”** conducted by the “Information Management and Emerging Engineering Department” at NITTTR, CG, from December 2 to December 6, 2024.
- **Dr. Anita Khanna:** Gave a talk on **“Effective Pedagogy”** on December 19, 2024, in the Faculty Induction Program organized by UGC-MMTTC, GGV.
- **Dr. Nipun Kumar Mishra and Mr. S.A. Sandiman:** Published a paper entitled, **“Resistive Ink-Based Polarization and Incident Angle Independent Wideband Absorber for RCS Reduction at KU and K Band,”** in Optik, Vol. 313, p. 171979, October 2024, doi: 10.1016/j.ijleo.2024.171979.
- **Dr. Ruchi Tripathi:** Received a prestigious project worth approximately Rs. 55 lakh from the Department of Telecommunication (DoT) for **“6G Communication.”**
- **Dr. Dharmendra Kumar:** Published a paper entitled, **“Photonic Crystal Fiber-Based Sensors for Various Cancer Detection in the Human Body - A Review,”** in IEEE Sensors Journal.

FACULTY ACHIEVEMENT

- **Dr. Sudakar Singh Chauhan:**

1. Published a **Scopus-Indexed Journal** titled, “**Novel Design of EXOR Gate and its Application for Circuits using QCA Nanotechnology**”, Micro and Nanosystems, Dec 2024, DOI: 10.2174/0118764029349996241115095107.
2. Submitted a research project proposal entitled “**Exploration of Environmentally Friendly, High-Efficiency, Stable, and Commercially Viable Perovskite Solar Cells PSCs**” in the **Department of Nano Science, DST**.
3. Served as a Technical Program Committee member of **4th International Conference on Emerging Techniques in Computational Intelligence (ICETCI 2024)** organized by Mahindra University.

- **Iptesam Aaliya Qureshi, Anil Kumar Soni, and Dr. Sudakar Singh Chauhan:** Published a conference paper titled, “**Thin metal-free THz absorbers: broadband sensing solutions**”, Accepted in 2nd International Conference on **Computational and Characterization Techniques in Engineering and Sciences (CCTES-24)**, Integral University, Lucknow.

STUDENT ACHIEVEMENT

Ph.D. Completion and Patent Filing:

- **Laxmikant Dewangan:**

1. Successfully completed his **Ph.D. in "Study and Design of Metamaterial-based Structures Towards the Improvement of Antenna Characteristics"** at GGV University in December 2024.
2. Filed a **patent for a "Dual-Wideband Dual-Functional Asymmetric Stair-Shape Metasurface-Based Polarization Converter"** in December 2024.

Achievements in Innovation and Competitions:

- **AM Surya (Final Year):**

1. Represented GGV in the **All India Inter-University Boxing Championship (Men) 2024-25**.
2. Participated in **ANVESHAN 2024** and presented the project, “**Smart Road Quality Monitoring System using IMU and ML**,” in December 2024.
3. Showcased his project, “**Rack Nove: An Innovative MPR Solution**,” at the **Start-up Sangam Conclave 2024** in December 2024.

- **Kumar Gulshan Raj (Final Year):** Received the prestigious “**Best Paper Award**” at the International Conference on Trends in Energy and Environmental Research for Sustainable Development-II (**TEERSD-II 2024**) for his paper titled, “**Tunable High Terahertz Absorber for Enhanced Solar Energy Harvesting Applications**,” securing the 1st position in November 2024.

- **Pranshu Chandra (Final Year):** Secured the “**Best Paper Award**” at **TEERSD-II 2024** for his paper, “**THz Absorber - An Approach to Boost Solar Energy Conversion**,” achieving 3rd position in November 2024.

STUDENT ACHIEVEMENT

- Divyansh Pandey (3rd Year):**
 - Secured the **2nd runner-up position** at **Xavspark 2024**, a National-Level Hackathon organized by St. Xavier's University Kolkata, for the project, **"Groundwater Level Prediction System,"** in November 2024.
 - Achieved **1st runner-up** in the **Accenture Innovation Challenge 2024** in November 2024.
 - Ranked in the **top 150 out of 25,000 participants** in **Eureka, Asia's Largest Business Hackathon** organized by E-cell IIT Bombay.
- Team Minions from GGV (SIH 2024 Grand Finale):**
 - Members: **AM Surya (Final Year), Amiya Vatsa (3rd Year), Adithya S Kumar (2nd Year), Astha Shukla (2nd Year), Shreya Singh (2nd Year)**
 - Advanced to the **Grand Finale** with their innovative project, **"Sol-Align: An Innovative Sensor Design."**

Internships and Training:

- Aditya Raj (3rd Year), Amiya Vatsa (3rd Year), Divyansh Pandey (3rd Year):** Received an internship as a **"Wire Harnessing Intern"** at **Erkey Motors** in December 2024.
- Tanisha Bhushan (3rd Year):** Received an internship as a **"Social Media Intern"** at **Erkey Motors** in December 2024.
- Ahmadraza Khan (2nd Year):** Completed a virtual internship in **Cyber Security** supported by the **Ministry of Electronics and Information Technology**, Government of India, in October 2024.
- Prabhakar Kumar Choudhary (2nd Year):** Successfully completed the **"Energy Literacy"** program organized by the **Energy Swaraj Foundation** in December 2024.

Achievement in Course Completion and Certifications:

- Amiya Vatsa, M. Kavya, and Md. Shahnawaz** from 3rd year ECE secured a place in the **Top 1%**, while **Siama Naseem** from 3rd year ECE secured a place in the **Top 2%** in the **Introduction to Internet of Things NPTEL** course offered by **IIT Kharagpur**.
- M. Kavya and Siama Naseem** from 3rd year ECE secured a place in the **Top 2%** in the **Digital Image Processing NPTEL** course offered by **IIT Kharagpur**.



KHELO BHARAT (SPORTS ACHIEVEMENT)

Girls

Sports		Position	Name of the Student
Kabaddi		Semi-Finalist	Sana Pawani (5th Sem, ECE) Satyavardha Venkatesh Sravanthi and Bharti (3rd Sem, ECE)

The Flip Flops

A Quarterly Newsletter Volume 3 Issue 4








KHELO BHARAT

(SPORTS ACHIEVEMENT)



Badminton Doubles 	Semi-Finalist	Shivangi Kumari and Sameeksha Singh (1st Sem, EE)
Cricket 	Semi-Finalist	Shivangi Kumari and Sarini Singh Kshatri (1st Sem, EE)

Boys

Sports 	Position	Name of the Student
Kabbadi 	University Winner	Korra Dilipkumar (3rd Sem, ECE) Ravada Jitendra Naidu (1st Sem, ECE)
Running 	1st Place (100m, 200m)	Shaik Muhammad Toufiq Umar (3rd Sem, ECE)
Cricket 	University Winner	Sachin Kumar Singh (5th Sem, ECE) Vineet Kumar John (3rd Sem, ECE)
Tug of War 	Univeristy Winner	K. Bhanudurga Nayak (3rd Sem, ECE)
Basketball 	University Runner Up	Gaurav Kumar (5th Sem, ECE) Sachin Ranjan (1st Sem, EE)
Chess 	University Winner	Shayon Kundu (1st Sem, ECE)



DEPARTMENTAL ACTIVITY

Report on the One-Day Workshop on Employable Skills and the Entrepreneurial Mindset

On October 3, 2024, the Placement Cell, ECE Department, IT GGV organized a transformative one-day workshop focused on "Employable Skills and Fostering an Entrepreneurial Mindset". The workshop was led by Mr. Sahil Gandhi, an accomplished founder and educator at MS Academy for Skills and Employment. The session aimed to equip students with practical skills and insights that are necessary for navigating the modern job market and considering entrepreneurship as a viable career path. The workshop commenced

with an engaging introduction, highlighting the importance of employable skills in today's dynamic job landscape. Mr. Gandhi set a positive tone for the day, encouraging students to actively participate and share their thoughts.

Mr. Gandhi discussed the limitations of the current education system, emphasizing the need for a curriculum that goes beyond theoretical knowledge to include practical skills relevant to the workforce. He urged students to seek opportunities that complement their academic learning. Mr. Gandhi shared insights on marketing, stating, "People do not buy goods and services; they buy relationships, stories, and magic." He emphasized the importance of storytelling in sales and building genuine connections with customers.

The speaker passionately argued why working for oneself is the safest choice in the current economic climate. He encouraged students to consider entrepreneurship as a path that offers more control and potential for growth.

Students learned about the proper processes and structures for investing in the stock market and mutual funds. Mr. Gandhi shared practical tips to make informed investment decisions. Emphasizing holistic development, he reminded participants that health should be their foremost priority. He advocated for daily exercise to maintain physical and mental well-being, which is essential for productivity.

Mr. Gandhi addressed the side effects of excessive social media use, particularly platforms like Instagram, which foster a culture of superficiality. He warned students against spending unnecessarily on maintaining appearances and encouraged them to focus on meaningful experiences.

Mr. Gandhi offered a unique course valued at 300 rupees, providing students with a structured pathway to enhance their skills further. The workshop concluded with an interactive Q&A session, where students expressed their gratitude and shared their key takeaways.

The one-day workshop was a resounding success, leaving participants motivated to adopt an entrepreneurial mindset and develop essential employable skills. The insights shared by Mr. Gandhi have undoubtedly equipped students to better navigate their future careers.



Faculty Spotlight: Dr. Dharmendra Kumar

Associate Professor, Department of Electronics and Communication Engineering Guru Ghasidas Vishwavidyalaya, Bilaspur, Chhattisgarh. The Department of Electronics and Communication Engineering is proud to feature Dr. Dharmendra Kumar in this edition of our quarterly newsletter. A distinguished academician and researcher, Dr. Kumar has made notable contributions to the field of photonics, nanotechnology and optical sensors.



Dr. Kumar is an expert in Photonic Crystal Fibers, Optical Fiber Sensors and Nanophotonics. His remarkable research credentials include being a Senior Member of IEEE and the Optical Society of America (OPTICA). With over 80 publications in leading national and international SCI journals and conferences, Dr. Kumar has consistently demonstrated excellence in research. His work has been featured in renowned platforms such as IEEE Transactions on Nanotechnology, IEEE Journal of Quantum Electronics, IEEE Sensor Journal, Superlattices and Microstructure, JOSA B, Applied Optics and many others.

In addition to his research contributions, Dr. Kumar has actively participated in academic outreach by delivering invited talks and serving as a session chair at several IEEE conferences. His leadership and mentorship have been pivotal, as evidenced by his guidance of 4 successful Ph.D. scholars and ongoing supervision of 6 Ph.D. students. Furthermore, he has mentored 19 M.Tech students, fostering their academic and professional growth.

Dr. Kumar's expertise and dedication continue to bring laurels to the department and inspire students and colleagues alike. We extend our gratitude for his unwavering commitment to advancing the frontiers of knowledge and congratulate him for his exemplary achievements.

Report: Opening of the IE Student Chapter in Electronics & Communication Engineering and Electrical Engineering at ECE Department

We are delighted to announce the opening of the Institution of Engineers (IE) Student Chapter in the Electronics and Communication Engineering and Electrical Engineering under Department of Electronics and Communication Engineering at Guru Ghasidas Vishwavidyalaya, Bilaspur.

This significant milestone marks the beginning of a new journey that will provide students with a platform to enhance their technical knowledge, foster innovation and develop professional skills. The establishment of the IE Student Chapter aims to bridge the gap between academic learning and industry requirements by organizing various workshops, seminars, technical competitions and hands-on training sessions.

The certification for the IE Student Chapter was officially granted, signifying the ECE department's commitment to excellence and professional development. This initiative will provide students



with an opportunity to interact with industry experts, participate in national and international events and build a robust professional network.

We express our gratitude to the faculty and administrative members who worked tirelessly to make this initiative a reality. Special thanks to the head of the department and the IE organizing team for their relentless efforts.

The ECE Department looks forward to empowering its students with this platform and creating a dynamic environment for learning and growth.

Department Introduction Event

The Flip Flops Team, the proud editorial body of the quarterly newsletter of the Electronics and Communication Engineering Department, organized a successful Department Introduction Event on September 27, 2024 and October 2, 2024. This event aimed to introduce the department's academic offerings, vision, achievements, and student opportunities to the first-year students, fostering a sense of belonging and enthusiasm among the newcomers. The department's rich history, mission, and achievements were showcased through a well-crafted presentation by The Flip Flops team.



The editorial team of The Flip Flops introduced their mission of delivering quarterly newsletters, documenting departmental activities, achievements, and updates. They encouraged students to contribute articles, projects, and creative content for upcoming editions.

An interactive Q&A session allowed first-year students to clarify their doubts about the department's academic structure, extracurricular activities, and career opportunities. Senior students shared their experiences and insights, inspiring juniors to make the most of their time in the department.

The Department Introduction Event served as a platform to acquaint new students with the legacy and opportunities of the ECE and EE Department.

The Flip Flops

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THE FLIP FLOPS TEAM

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