

SPARK



SPARK | e-NEWSLETTER

DEPARTMENT OF ELECTRONICS ENGINEERING

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

OCTOBER 2025
X EDITION

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FROM THE HOD DESK

Dear Readers,

We are here to update you about the overall progress and a few milestones achieved by the Department of Electronics Engineering in October 2025.

The Department conducted an intensive and technically enriching Drone Bootcamp at Shambhunath Institute of Engineering and Technology, Prayagraj (U.P.), under the MeitY-funded initiative on "Capacity Building for Human Resource Development in Unmanned Aircraft Systems (Drone and Related Technologies)."

Prof. Manodipan Sahoo delivered a compelling and future-oriented Keynote Address at the FDP on "Future Innovations in Quantum VLSI: AI-Driven Approaches in Quantum Computing and VLSI," organized by the Institute of Engineering & Management, Kolkata, while Prof. Samrat Mukhopadhyay served as a distinguished and insightful Resource Person for the FDP on "Quantum Computing Foundations and Applications (QCFA)-2025," conducted by Assam down town University, Guwahati. On the other hand, Prof. Sanjeev K. Raghuwanshi, Prof. Naresh Sharma, and Prof. Ravi Kumar Gangwar have recently authored a couple of research articles published in esteemed international journals. As a significant outreach endeavour, Prof. Swati Rajput served as the dynamic and influential WIE Chair and Panellist at the IEEE International Conference on Electrical, Electronics and Computer Science with Advanced Power Technologies - A Future Trend (ICE2CPT 2025) at NIT Jamshedpur and Prof. Jeevesh Kumar visited the Biophysics Department of Ewing Christian College, Prayagraj, Uttar Pradesh.

Heartiest congratulations to our three exceptionally meritorious and dedicated M.Tech students selected for the prestigious and competitive M.Tech Initiative Program - IEEE MAPCON 2025. Moreover, a notable and commendable milestone has been achieved with the granting of a patent to Prof. Ravi Kumar Gangwar and his research team.

A promising and academically rewarding opportunity is available for bright and motivated individuals to pursue a PhD programme, with monthly interviews ensuring continuous and merit-driven selection. Finally, the internationally oriented and academically significant ELEXCOM 2025 Conference is scheduled for December 2025, and we anticipate active, enthusiastic, and broad-based participation in this major scholarly event.

Please find the Newsletter for detailed updates and give your valuable feedback to fertilise us to be bigger and better.

Wish you all the best!

Prof. Ravi Kumar Gangwar
HoD, Department of
Electronics Engineering,
IIT(ISM) Dhanbad





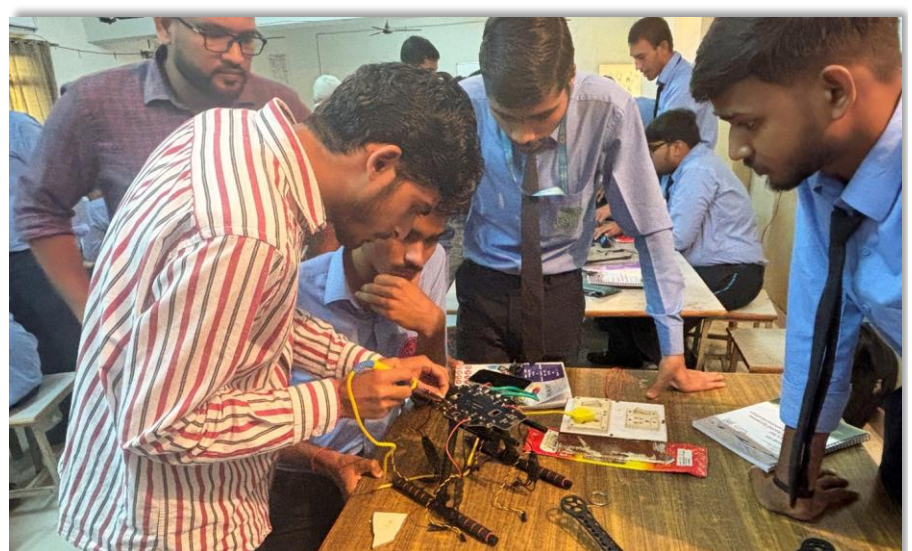
DRONE BOOTCAMP @ SIET, PRAYAGRAJ



The Electronics Engineering Department of IIT ISM Dhanbad recently conducted a Drone Bootcamp at Shambhunath Institute of Engineering and Technology Prayagraj U.P, under the MeitY-funded project on “Capacity Building for Human Resource Development in Unmanned Aircraft Systems (Drone and Related Technologies).” Held in October, 2025. The bootcamp aimed to provide participants with a robust understanding of drone technology through both theoretical and practical sessions.

More than 120 students from various engineering disciplines participated in this five-day program, gaining hands-on experience in assembling, configuring, and successfully flight-testing 19 drones, including 07 hexacopters and 12 quadcopters. The bootcamp’s curriculum encompassed key aspects of UAV systems such as UAV introduction, aerodynamics, sensors, GPS, antenna design, UAV communication, image processing, artificial intelligence (AI) and machine learning (ML), control systems, and embedded systems.

This initiative not only equipped students with essential skills but also fostered a deeper interest in cutting-edge UAV technologies.





EXCHANGING IDEAS
AND INNOVATIONS

Prof. Manodipan Sahoo served as the Keynote Speaker for the *Faculty Development Programme (FDP)* on “Future Innovations in Quantum VLSI: AI-Driven Approaches in Quantum Computing, and VLSI”, organized by the Institute of Engineering & Management, Kolkata on October 30, 2025.

His keynote address on “*Design and Investigation of Advanced TMD FET Based Biosensors*” provided valuable insights into cutting-edge research in quantum VLSI and biosensor technologies, inspiring faculty members and researchers to explore innovative AI-driven approaches in the field.

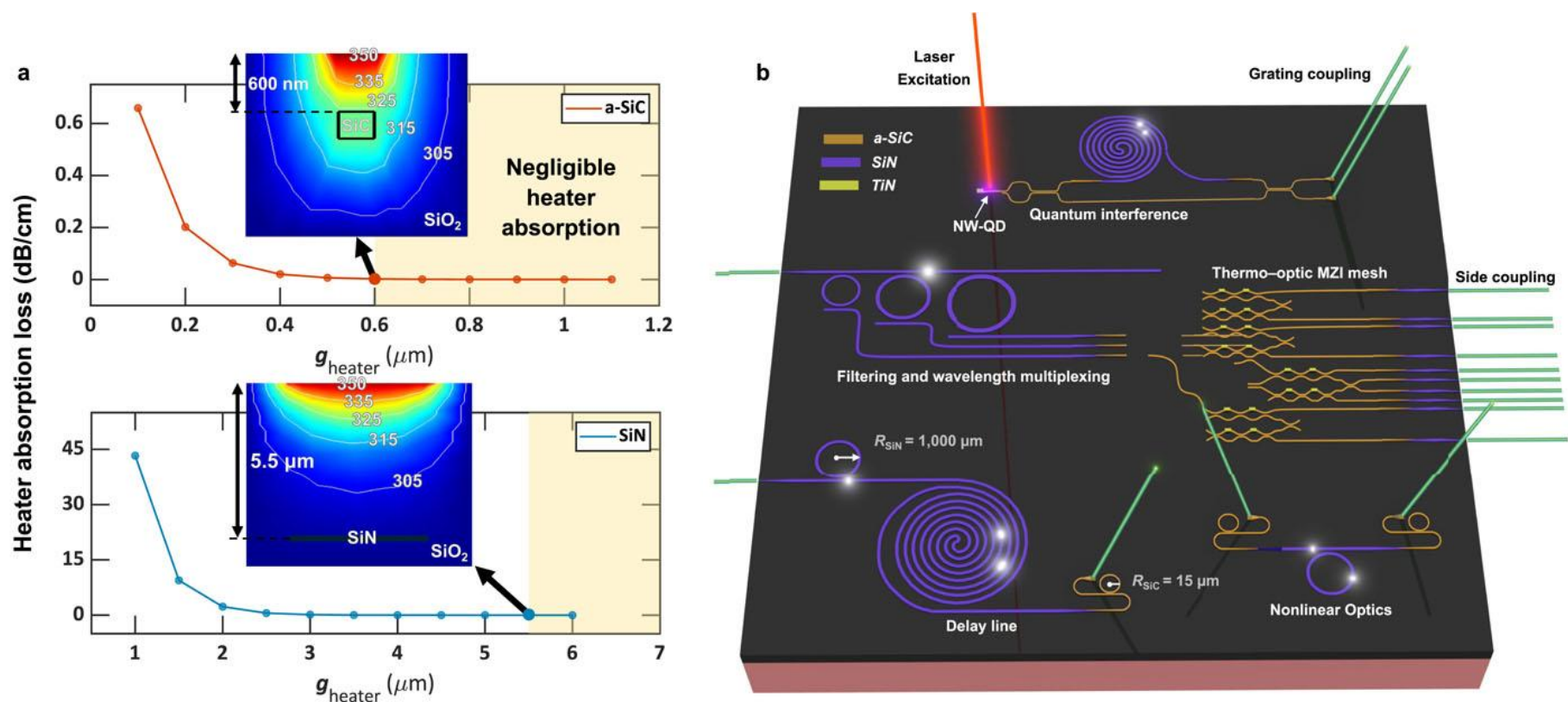


Prof. Samrat Mukhopadhyay served as a Resource Person and Speaker for the *Faculty Development Programme (FDP)* on “Quantum Computing Foundations and Applications (QCFA)-2025”, organized by Assam down town University, Guwahati on October 29, 2025.

He delivered a session on “*Quantum Computing*”, sharing valuable insights into the foundations, applications, and future directions of this transformative technology. His contribution enriched the programme by fostering deeper understanding among faculty members and researchers, encouraging exploration of quantum computing’s role in next-generation innovation.

Zizheng Li ; Bruno Lopez-Rodriguez ; Naresh Sharma ; Roald van der Kolk ; Thomas Scholte ; Harmen Smedes ; R. Tufan Erdogan ; Jin Chang ; Hugo Voncken ; Jun Gao ; Ali W. Elshaari ; Simon Gröblacher ; Iman Esmaeil Zadeh "Heterogeneous integration of silicon nitride and amorphous silicon carbide photonics" APL Photonics 10, 106116 (2025)DOI <https://doi.org/10.1063/5.0285619>

Amorphous silicon carbide (a-SiC) has emerged as a compelling candidate for applications in integrated photonics, known for its high refractive index, high optical quality, high thermo-optic coefficient, and strong third-order nonlinearities. Furthermore, a-SiC can be easily deposited via CMOS-compatible chemical vapor deposition (CVD) techniques, allowing for precise thickness control and adjustable material properties on arbitrary substrates. Silicon nitride (SiN) is an industrially well-established and well-matured platform, which exhibits ultra-low propagation loss, but it is suboptimal for high-density reconfigurable photonics due to the large minimum bending radius and constrained tunability. In this work, the a-SiC is monolithically combined with SiN photonics, leveraging the merits of both platforms, and the a-SiC/SiN heterogeneous integration with an on-chip interconnection loss of $(0.28+0.44-0.28)$ dB and integration density increment exceeding 4444-fold. By implementing active devices on the a-SiC, it achieved 27 times higher thermo-optic tuning efficiency, with respect to the SiN photonic platform. In addition, the a-SiC/SiN platform gives the flexibility to choose the optimal fiber-to-chip coupling strategy depending on the interfacing platform, with efficient side-coupling on SiN and grating-coupling on the a-SiC platform. The proposed a-SiC/SiN photonic platform can foster versatile applications in programmable and quantum photonics, nonlinear optics, and beyond.

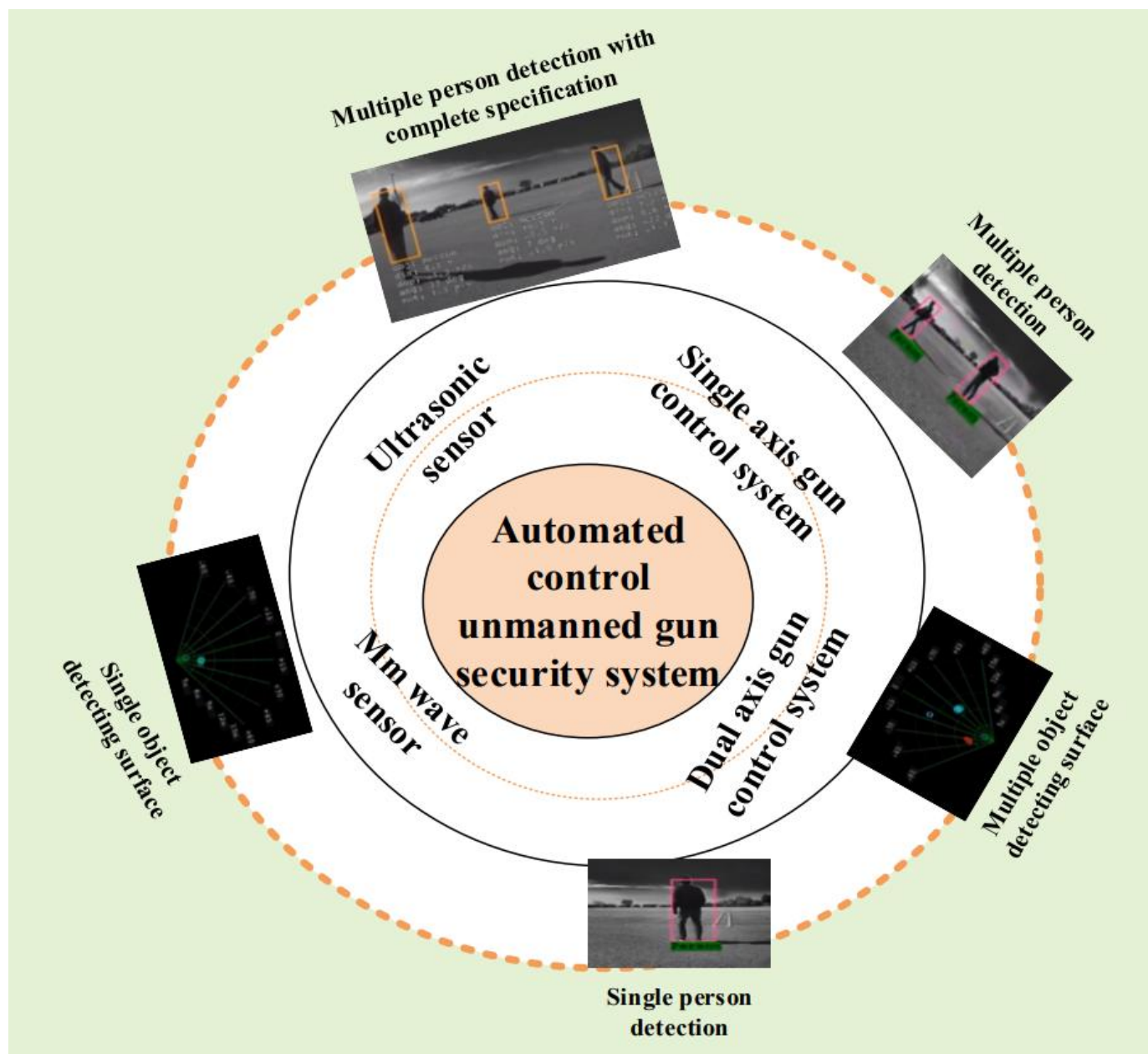


(a) Simulation analysis of the TiN heater absorption losses with respect to the heater-waveguide gap for the a-SiC waveguides (upper panel) and SiN waveguides (lower panel). The light-yellow shaded area marks the regime where the metal absorption losses are negligible. The insets illustrate the heat (temperature) distribution when the TiN heaters are set to the same temperature of 350 K.

(b) Illustration of the a-SiC/SiN heterogeneous photonic integrated circuit with the functional devices and potential applications. The glowing white dots illustrate the photons propagating in the waveguides. The optical fibers are represented using green color, and the free-space laser beam is depicted with red color.

Vikash Kumar, Sanjeev Kumar Raghuwanshi, and Santosh Kumar” Experimental Implementation of a Cloud-Based Automated Unmanned Firearm Security System” IEEE Sensors Journal. DOI- <https://doi.org/10.1109/JSEN.2025.3615968>

This article proposes a prototype of an unmanned long-range gun capable of shooting at a locked target without approaching the gun. If it is placed at the border, it will help reduce soldier deaths. In this prototype, a remote control is used to control the gun's vertical and horizontal movement. This gun is completely wireless, that aids soldiers who are seated at a distance in viewing the scenes captured by the camera. Apart from that, a drone camera is used to determine the enemy's visual status, which makes it easier for soldiers to target the enemy. The prototype's mechanical structure is made of wood, and it is powered by two high torque motors that rotate the gun in all directions. At the prototype level, an ultrasonic sensor is used to manage the gun's range distance sensor. By utilizing this sensor, if anyone or anything enters the predefined distance, the soldier is alerted to any movement. The transmitter (Tx) and receiver (Rx) modules are used to communicate between the firearm and the remote control. The issue of the Tx/Rx module's limited range has been addressed in the proposed approach for dealing with a larger battlefield's distance; this issue is addressed by the mmwave Sensor with a GPS system, that aids in increasing the range. For implementation purposes, an Arduino controller is used.



Divyanshi Srivastava, Student Member, IEEE, Tripta Kumari, Student Member, IEEE, Kundan Kumar Suman, Student Member, IEEE, Ravi Kumar Gangwar, "Wideband Circularly Polarized Conformal MIMO Antenna System for 5G Sub-6GHz Vehicular Applications" IEEE Transactions on Vehicular Technology. DOI- <https://doi.org/10.1109/TVT.2025.3622637>

This article introduces a wideband, circularly polarized, rectangular slot-based four-port multiple input multiple output (MIMO) antenna system for 5G sub-6 GHz vehicular communication. The proposed antenna element comprises an optimized radiator enclosed within a rectangular slot, excited through an L-shaped Coplanar Waveguide (CPW) technique to achieve wide impedance bandwidth. It includes an inverted L-shaped stripline and a stepped staircase structure, enhancing the axial ratio (AR) bandwidth. The MIMO system is formed by replicating the single-element antenna at a spacing of $0.2 \lambda_0$, creating a four-port configuration. The introduction of annular ring-shaped parasitic patch elements reduces the mutual coupling between antenna elements. The proposed MIMO antenna attains impedance matching ($S_{11} \leq -10$ dB) from 3.19 to 6.94 GHz (72.87%), while an AR bandwidth ($AR \leq 3$ dB) from 3.09 to 6.19 GHz (66.8%), with a minimum isolation of 16 dB. The realized gain ranges from 3.44 to 7.51 dBi, with total efficiency varying between 90% and 98.5%. The proposed MIMO antenna was fabricated and tested in planar and conformal configurations. Furthermore, the proposed antenna is integrated into the vehicle roof to demonstrate its performance in vehicular scenarios. Additionally, a link budget analysis of the proposed MIMO system is performed to validate its communication performance.

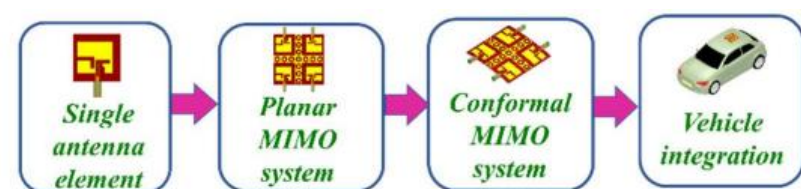
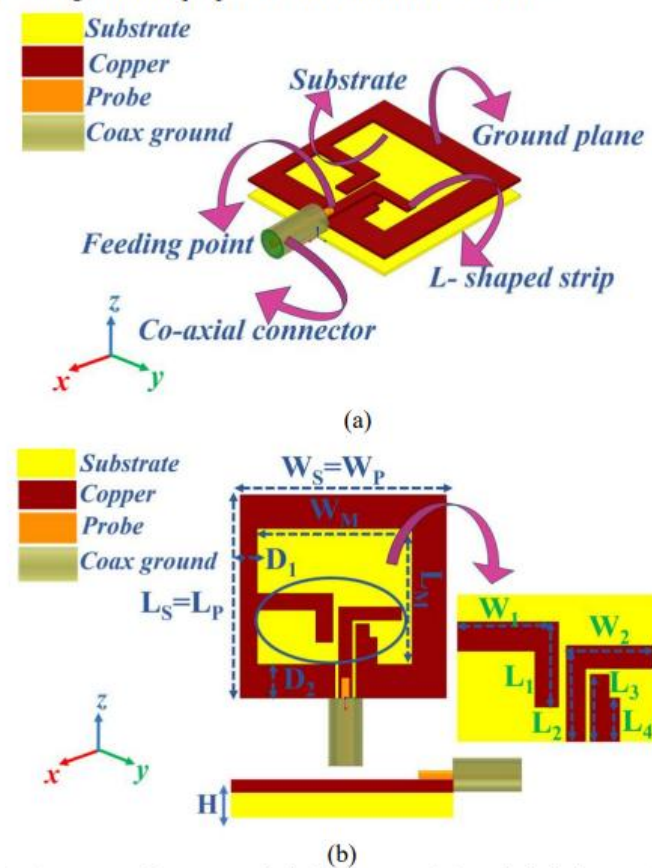
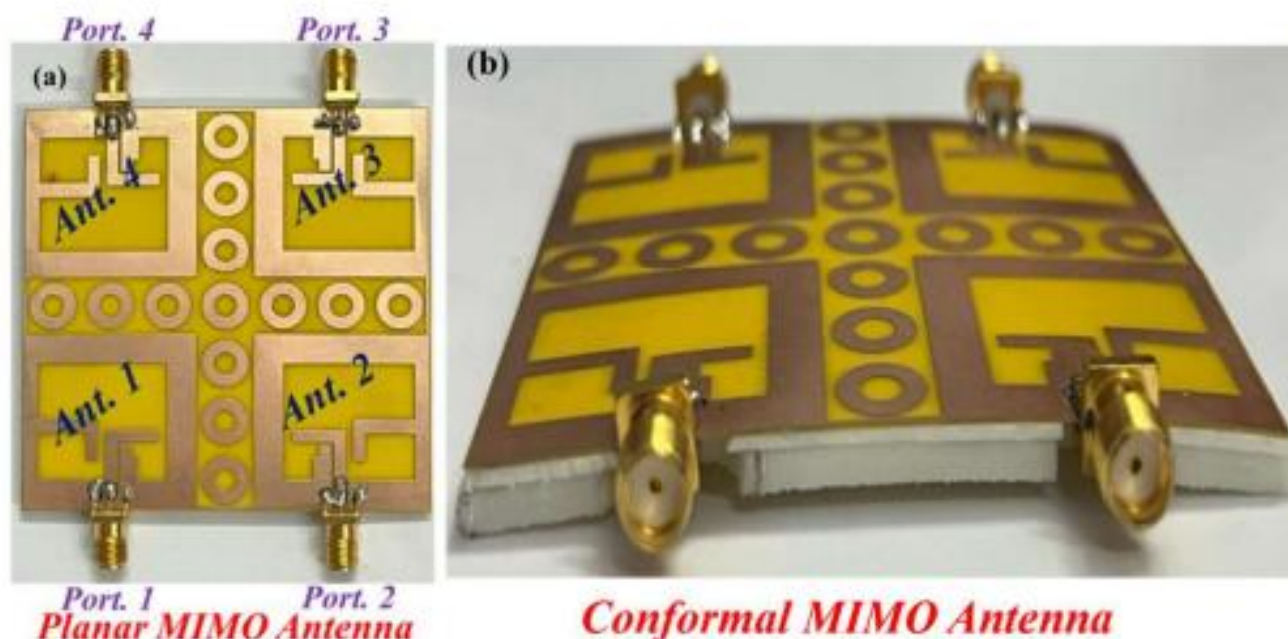


Fig. 1. Design flow of proposed conformal MIMO antenna.



Geometry of a proposed single element: (a) exploded view, and (b) top and side view.



Prototype of the proposed CP MIMO antenna: (a) Top view of the planar configuration, and (b) Side view of the conformal configuration.

OUTREACH

Prof. Swati Rajput had the honour of serving as the Women in Engineering (WIE) Chair and Panellist at the *IEEE International Conference on Electrical, Electronics and Computer Science with Advanced Power Technologies – A Future Trend (ICE2CPT 2025)*, held at NIT Jamshedpur from October 29–31, 2025.

In this capacity, she contributed to shaping discussions on emerging trends in advanced power technologies, while also emphasizing the importance of diversity, inclusion, and leadership opportunities for women in engineering and technology. The conference brought together renowned academicians, researchers, and industry leaders from across the globe, fostering collaboration and knowledge exchange on future innovations in electrical, electronics, and computer science.

Her active involvement as WIE Chair highlighted the commitment to empowering women engineers, encouraging young professionals, and strengthening the global IEEE community through impactful dialogue and mentorship.



ड्रोन निर्माण के बारे में दी जानकारी

प्रयागराज। यूइंग क्रिश्चियन कॉलेज के बायो फिजिक्स विभाग की ओर से बुधवार को आयोजित कार्यक्रम में ड्रोन प्रौद्योगिकी के बारे में जानकारी दी गई।

आईआईटी धनबाद के प्रो.जीवेश ने विद्यार्थियों को भारत सरकार के विज्ञान और प्रौद्योगिकी विभाग एवं सेमीकंडक्टर मिशन के वेबसाइट को हमेशा देखते रहने की सलाह दी। उन्होंने उद्योग जगत में प्रचलित धारणाओं व उनकी वास्तविकता की चर्चा किया।

प्रो.जीवेश ने बायो फिजिक्स केंद्र के विद्यार्थियों को समर इंटरनशिप के लिए भी आमंत्रित किया। इस दौरान प्रो. अशोक पाठक, डॉ. प्रेम प्रकाश सिंह, डॉ. अंकित कशवाहा, डॉ. शुभम त्रिपाठी, डॉ. प्रशांत खंडाई आदि रहे। ब्यूरो

Prof. Jeevesh Kumar recently visited the biophysics department of Ewing Christian College in Prayagraj, Uttar Pradesh, as part of an academic outreach program. During the visit, he engaged with faculty members and students, shared insights on current academic and research trends. His interaction aimed to inspire young learners, strengthen academic ties, and promote a culture of innovation and scholarly exchange within the institution.



‘सीखने के प्रयास को वरीयता देती हैं कंपनियां’

प्रयागराज। इविंग क्रिश्चियन कॉलेज के बायोफिजिक्स विभाग की ओर से ड्रोन प्रौद्योगिकी विषय पर बुधवार को व्याख्यान आयोजित किया गया। मुख्य वक्ता आईआईटी-आईएसएम धनबाद के इलेक्ट्रिकल इंजीनियरिंग विभाग के प्रो. डॉ. जीवेश

वरीयता देती है। विद्यार्थियों को विज्ञान एवं प्रौद्योगिकी विभाग एवं सेमीकंडक्टर मिशन की वेबसाइट को हमेशा देखते रहने की सलाह देते हुए उन्होंने बायो फिजिक्स केंद्र के विद्यार्थियों को समर इंटरनशिप के लिए आमंत्रित किया। स्वागत केंद्र के





CONGRATULATIONS

To the **Winners** of the Prestigious **Mtech Initiative** Programme of **IEEE MAPCON 2025**



Kumari Shivangi Gupta



Saptarshi Mukherjee



Bhukya Sharath Naik



The Department is delighted to share that its M.Tech students—Mr. Bhukya Sharath Naik, under the guidance of Prof. Y. M. Asha Latha, and Mr. Saptarshi Mukherjee along with Ms. Kumari Shivangi Gupta, under the guidance of Prof. Prashant Kumar Varshney—have been selected for the highly esteemed M.Tech Initiative Program under the IEEE Microwave, Antennas & Propagation Conference (MAPCON) 2025.

The IEEE MAPCON is a premier international conference jointly organized by the IEEE Antennas and Propagation Society (AP-S) and the IEEE Microwave Theory and Techniques Society (MTT-S). It serves as a dynamic platform for researchers, academicians, and industry professionals from across the globe to exchange innovative ideas and advancements in microwave engineering, antennas, electromagnetic systems, and propagation technologies.

PATENT GRANTED



The Department of Electronics Engineering, IIT (ISM) Dhanbad, is delighted to announce that a patent titled “A mmWave Transmitter System Configuring CDRA Array and Load Modulator for Generating and Transmitting 256-QAM Signals in 5G and Beyond Networks” has been granted by the Indian Patent Office (Patent No. 572164, dated 16 October 2025) to Dr. Kundan Kumar Suman, Dr. Tripta Kumari, and Prof. Ravi Kumar Gangwar.

The invention introduces a novel integration of a Ceramic Dielectric Resonator Antenna (CDRA) array with a Load Modulator (LM), forming an energy-efficient single-chain transmitter capable of generating high-order 256-Quadrature Amplitude Modulation (QAM) signals within the millimeter-wave band (26.5-29.5 GHz). This innovation achieves constant-envelope operation by dynamically tuning the antenna’s load impedance, eliminating power amplifier back-off losses, enhancing radiation efficiency, and reducing hardware complexity. The system’s aperture-coupled CDRA structure further ensures low cross-polarization, wide bandwidth (≈ 3 GHz), and stable beam performance, making it highly suitable for 5G/6G communication and radar systems.

This achievement underscores the department’s leadership in advanced RF, antenna, and microwave system research, and contributes significantly to India’s indigenous development of next-generation wireless communication technologies.



On October 31, 2025, the Department of Electronics Engineering observed *Rashtriya Ekta Diwas* by taking the Rashtriya Ekta Pledge in honor of the 150th birth anniversary of Sardar Vallabhbhai Patel, the Iron Man of India. The event, conducted in a formal and institutional manner, brought together faculties & staffs who collectively reaffirmed their commitment to the values of unity, integrity and national security, while also engaging in a student-friendly celebration that highlighted Patel's role in the integration of India's princely states, inspired reflections on the importance of solidarity in today's technological era and concluded with a spirited resolve to uphold the vision of "Ek Bharat, Shreshtha Bharat".



UPCOMING EVENT

ELEXCOM'25

Tracks of Conference

Electric and Autonomous Vehicles

Charging Software & AI/ML Support Charging Infrastructure, Energy Storage Technologies, Power train and drives for electric transportation, EV/AVs Industry – Regulations, Economics and Standards, Renewable Integration, Cyber resiliency in EV/AVs, Sustainable Development and Transformation in EV/AVs, Grid Integration and allied areas, Battery Management and Swapping Systems, Intelligently controlled EV/AVs, Power Systems operation, control and allied areas, Power Electronics applications and allied areas, System Modelling and Control applications

Communication Beyond 5G/6G

Network architectures and communication protocols, Massive MIMO/Millimeter wave communications, 3D Aerial BS placement and online/offline UAV trajectory optimization, Theoretical frameworks for the analysis of wireless communications, System-level simulation studies of wireless communications, Satellite & Space Communications, Smart Grid Communications, Integrated Sensing and Communication, Reconfigurable Intelligent Surfaces, Green Communication Systems & Networks, AI/ML for communications, Hardware architecture of communication systems, Signal processing and communication allied areas, Digital Mining, Underground Mine Communication, Drone Based Applications in Agriculture, Surveillance, project monitoring etc., AI/ML applications, Microwaves for Target Detection & Identification, Information & Communication Technology, Drone and allied areas, Antenna and Wave Propagation, EMC/EMI and its applications, Phase Array Antenna Systems, Over the air RCS measurements

Quantum and Photonics

Quantum Communications & Computing, Quantum Information and processing, Quantum Photonics, Quantum Devices, Topological Photonics, Silicon Photonics, Optical communication and networks, Fiber & guided wave photonics, Microwave & Terahertz Photonics, Photonic Materials & Devices, Lasers & Nonlinear Optics, Lidar and its applications, AI & ML in Photonics, Optical Microscopy and Imaging, Free Space Optics

VLSI Technology and Circuits

CMOS Analog, Mixed-Signal and digital circuits, Reconfigurable logic/computation, Device - Circuit Interactions, CAD for VLSI, MEMS / NEMS, Spintronics, Testing and Verification, Biomedical Devices, Circuits, and Systems, Computing / Processing in Memory, Data Converters, Device Modeling, Fabrication, Characterization and Reliability, Digital Circuits, Hardware Security, Signal Integrity, IOs, Power Management Devices and Circuits, Processes and Materials for CMOS Scaling and New Devices, Processors and NoC/SoC, Wireless and RF Devices Circuits and Systems, Neuromorphic Computing, AI/ML on Chip, RF Integrated Circuits, High Power VLSI

Intelligent Computing and Automation

Artificial Intelligence (AI) in advanced networking, Big Data Cloud/Fog/Edge Computing, IoT, Industry 5.0 and beyond, AI/Machine Learning (ML) in computer vision applications, Safety, security, cyberattacks and hijacking, AI/ML in Autonomous Vehicles (AVs), Effect of AVs on public health, High performance computing, Evolutionary Computing, Intelligent algorithms for automation, Connected autonomous vehicles and internet of vehicles, Reinforcement Learning (RL) and Deep Reinforcement Learning (DRL), Intelligent and Autonomous vehicles, Intelligent Transportation System, AV/UAV in Agriculture, Transportation and Smart city applications, V2V and V2X communication networks, Green Computing and communications



Indian Institute of Technology (ISM) Dhanbad
Centenary Celebrations

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- Prof. Gauri Shankar, IIT (ISM)
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- Prof. Swati Rajput, IIT (ISM)

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- Prof. Nirupama Mandal, IIT (ISM)
- Prof. Y.M. Asha Latha, IIT (ISM)
- Prof. Kaushik Majumdar, IIT (ISM)
- Prof. Naresh Sharma, IIT (ISM)

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- Prof. Sandeep Kumar, IIT Delhi
- Prof. Jeevesh Kumar, IIT (ISM) Dhanbad

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2nd International Conference on Electrical, Electronics, Communication and Computers

Organized By
Department of Electronics Engineering
Indian Institute of Technology (ISM) Dhanbad
(20th - 22nd December, 2025)



<https://www.iitr.ac.in/elexcom>



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OPPORTUNITY

In the Department of Electronics Engineering at IIT (ISM) Dhanbad, applications are being accepted for both full-time and part-time Ph.D. programs.

Application form, Guidelines, Terms & Conditions for full-time are available at IIT(ISM) Dhanbad website.

https://admissions.iitism.ac.in/phd/index.php/admission/add_phd/home

FACULTY PROFILE

Dr. Aman Sikri

Assistant Professor

Research Interest: Reconfigurable Intelligent Surfaces (RISs), Non Orthogonal Multiple Access (NOMA), Free Space Optical (FSO) Communications, Rate Splitting Multiple Access (RSMA).



Dr. Debjani Mitra

Professor

Research Interest: Wireless Communication- 5G technologies, Communication Networks, Machine Learning and Statistical Signal processing.

Dr. Govind Murmu

Assistant Professor

Research Interest: Signal Processing and Communication Algorithms, Adaptive Filters, Adaptive Beamforming for 4G/5G, Blind Source Separation (BSS) Algorithms, Adaptive Control.



Dr. Himanshu Bhusan Mishra

Associate Professor

Research Interest: Development of Physical Layer Signal Processing for 5G/6G Wireless Technologies (OFDM, Massive MIMO, OTFS, RIS, ISAC etc.), Implementation of Physical layer algorithms on Software Defined Radio (SDR) based point-to-point wireless setup.

Dr. Samrat Mukhopadhyay

Assistant Professor

Research Interest: Online Machine Learning, Compressed Sensing, Nonconvex and Stochastic Optimization, Sparse Adaptive Filtering.



Dr. Manoj Kumar

Assistant Professor

Research Interest: Graph machine learning, graph dimensionality reduction, optimization algorithms, federated learning, large language models (LLMs), and their real-world applications.

Dr. Ugrasen Singh

Assistant Professor

Research Interest: Design and analysis of wireless communication systems. I have been working on Space Modulation Techniques (SMTs), Reconfigurable Intelligent Surface (RIS), Non-Orthogonal Multiple Access (NOMA), Orthogonal Frequency Division Multiplexing (OFDM), Ultra-Reliable and Low-Latency Communication (URLLC), and Physical Layer Security.



Dr. Preety Priya

Assistant Professor

Research Interest: Integrated Communications and Sensing, High Mobility Communications, Leo Satellite Communications, OTFS, OFDM, Beamforming, MIMO, Sparse Signal Processing, Synchronization and Channel Estimation, Nonlinear Data Detection (Particle Filter).

Dr. Sushrut Das

Professor

Research Interest: Microwave Passive Networks, Antennas, Wireless Energy Transfer and Energy Harvesting Microwave Filters.



Dr. Santanu Dwari

Professor

Research Interest: RF & Microwave Engineering, Antenna.

Dr. Prashant Kumar Varshney

Assistant Professor

Research Interest: SIW Based Microwave Planar Sensors, Metamaterial Inspired Microwave Sensors for Various Applications.



Dr. Ravi Kumar Gangwar

Professor

Research Interest: Dielectric Resonator Antennas, MIMO Antennas, Bio-electromagnetics And Microwave Measurements.

Dr. Y. M. Asha Latha

Assistant Professor

Research Interest: RF Power Amplifier Design: Broadband, High Efficiency, Switched Mode PAs, Harmonic Manipulation, Harmonic Injection, Load Modulation, Doherty PA, Chip Design: GaN MMIC Based RF Power Amplifier Design.



Dr. Nirupama Mandal

Associate Professor

Research Interest: Transducer Design, Controller Design, Instrumentation System Design, Smart Sensing System and Smart Instrumentation.

Dr. Jaisingh Thangaraj

Associate Professor

Research Interest: Optical Networks, Wireless Sensor Networks, VANET, Software Defined Networks, Optical Instrumentation.**Dr. Jitendra Kumar**

Professor

Research Interest: Nano-optoelectronics, Nanoelectronics.**Dr. Mrinal Sen**

Associate Professor

Research Interest: Photonic Integrated Circuits, Embedded Systems.**Dr. Naresh Sharma**

Assistant Professor

Research Interest: Integrated Photonics, Programmable Photonics, Free Space Optics, Photonic Crystals Applications.**Dr. Swati Rajput**

Assistant Professor

Research Interest: Silicon Photonics for Next Generation Optical Communication, Nano photonics, Semiconductor Optoelectronics.**Dr. Subindu Kumar**

Professor

Research Interest: III-V Semiconductor Nano-structures, Nano-scaled MOS Devices and Circuits, On-Chip Interconnects.**Dr. Rahul Bhattacharya**

Assistant Professor

Research Interest: Modelling Of Analog and Mixed-signal Circuits, Fault Modeling and Testing of VLSI Circuits, FPGA-based Design.**Dr. Rajeew Kumar Ranjan**

Associate Professor

Research Interest: VLSI Design, Mem-element (Memristor, Memcapacitor, And Meminductor) Design.**Dr. Amitesh Kumar**

Associate Professor

Research Interest: Photonic Integrated Circuits, Fiber Optic Sensors, Microwave Photonics, and Radio-over Fiber Technologies for 5G and Beyond.**Dr. Devendra Chack**

Associate Professor

Research Interest: Photonic Integrated Circuits, Advance Optical Communications, Radio-over-Fiber System For 5G/6G.**Dr. Mukul Kumar Das**

Professor

Research Interest: Modeling and Design of Semiconductor Devices for VLSI and Opto-electronic Applications, Growth of Semiconductor Interface and Band-gap Engineered Thin Film Transistor and Solar Cell by using PVD Technique, Design and Development of Integrated Modules for Photonic QKD Network Development Of Quantum Fiber Optic Network.**Dr. Sanjeev Kumar Raghuwanshi**

Professor

Research Interest: Numerical Method of Optical Waveguides, Optical Sensor, Microwave Photonics, Optical Fiber Communication.**Dr. Jeevesh Kumar**

Assistant Professor

Research Interest: 2D Materials, Emerging Electronic Devices, Atomistic Simulation, Device Fabrication, material & Device characterizations.**Dr. Kaushik Mazumdar**

Associate Professor

Research Interest: VLSI Design, Electronic Low Dimensional Systems, Analysis and Design of MOSFET & Nano-Devices.**Dr. Manodipan Sahoo**

Associate Professor

Research Interest: Emerging Materials-based Devices, VLSI Circuits.**Dr. Shalu Rani**

Assistant Professor

Research Interest: Energy Storage Devices for Wearable Electronics Including Advanced Flexible Supercapacitors/Micro-supercapacitors.



EDITOR'S NOTE

Hi everyone,

We're working to make our monthly newsletter of electronics department as valuable as possible, what did you think of this month's issue? Please let us know your thoughts. We'd love to hear what you enjoyed, what you'd like to see more of, or any other suggestions you have. Thanks for your time!

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"They alone live, who live for others."

"Neither seek nor avoid, take what comes."

“ *Do one thing at a time and while doing it put your whole soul into it to the exclusion of all else”*

--Swami Vivekananda