

**St. Thomas' College of Engineering & Technology**

**4 D.H. ROAD, Kolkata-700023**

# *NEWSLETTER*



*Darpan*  
*(The Image of Achievements)*

DEPARTMENT OF  
ELECTRONICS & COMMUNICATION ENGINEERING

*-: October to December :-*

V O L U M E ECX - EDITION II, JANUARY 29, 2025

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4, D. H. Road, Kidderpore, Kolkata – 700023

## Department of Electronics & Communication Engineering

# Darpan

(The Image of Achievements)

Volume: ECX - Edition II, 29<sup>th</sup> January, 2025

### Editors:

1. Mr. Jishnu Bhadra  
B.Tech 4<sup>th</sup> year,
2. Ms. Sumana Manna  
B.Tech 4<sup>th</sup> year,
3. Mr. Kousik Sarkar  
B.Tech 3<sup>rd</sup> year,
4. Miss. Rupsa Chakraborty  
B.Tech 3<sup>rd</sup> year
5. Mr. Adrishikhar Chowdhury  
B.Tech 2<sup>nd</sup> year
6. Ms. Adrika Sarkar  
B.Tech 2<sup>nd</sup> year
7. Ms. Mohar Chakraborty  
B.Tech 1<sup>st</sup> year
8. Mr. Raj Nandi  
B.Tech 1<sup>st</sup> year

### Faculty in-charge :

1. Sudipta Dutta,  
Assistant Professor
2. Prashnatit Pal,  
Assistant Professor

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## Vision of the Department

To build a strong teaching and research environment to cater to the manpower needs in Industrial and Academic domains of the rapidly growing Electronics and Communication Engineering.

## Mission of the Department

- To produce certified industry-ready professional in Electronics and Communication Engineering, through innovative educational programs incorporating laboratory practices and project-based teaching-learning processes, in a modern environment.
- To create knowledge base of advanced technologies through research in the area of Electronics and Communication, for competitive and sustainable development of the country.
- To groom the department as a learning centre to inculcate advancement of technology in Electronics and Communication Engineering with social values and environmental awareness.

## Program Educational Objectives (PEO)

- Possess design skills and core proficiency in Electronics & Communication Engineering for employment in relevant industries.
- Possess strong core and advanced knowledge Electronics & Communication Engineering to pursue higher studies.
- Exhibit leadership, ethical values, and social commitment to contribute in academia, industry and/or entrepreneurial ventures, both nationally and globally.





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### Recent Technology Trend

#### Flexible & Wearable Electronics

Flexible and wearable electronics have emerged as a transformative class of technologies enabling lightweight, conformable, and unobtrusive systems for next-generation healthcare, human-machine interfaces, and smart environments. Recent advances of these developments support a wide spectrum of applications, including skin-mounted physiological sensors, e-textiles, flexible displays, soft robotics, and implantable medical systems. Integration of low-power wireless communication and on-device signal processing has further accelerated the transition from laboratory prototypes to practical wearable platforms capable of continuous, real-time monitoring. Ongoing research focusing on materials innovation, scalable fabrication, and system-level co-design is expected to drive widespread adoption of flexible and wearable electronics in personalized healthcare, smart textiles, and the Internet of Things (IoT).

Dr. Prasun Chowdhury

HOD, Department of Electronics and Communication Engineering

### Departmental Milestones

#### STUDENTS' ACHIEVEMENTS

##### STUDENTS PUBLICATION:

- **Subhadeep Khan, Abhiraj Mukherjee, Ashmita Mondal, Prasun Chowdhury**, "IoT Based Smart Ration Distribution System", International Journal of Enhanced Research in Science, Technology & Engineering, ISSN: 2319-7463, Vol. 13 Issue 11, November-2024, Impact Factor: 8.375 (WoS Indexed, UGC Approved Journal)
- **S. Khan, A. Mukherjee, S. K. Mitra**, Dipankar Kundu, "A Li-Fi-based System for Simultaneous Monitoring of Various Industrial Parameters", Advance Research in Communication Engineering and its Innovations, Vol.1, Issue 3, pp.38-50, Dec.2024.
- **S. De, D. Deogharia, M. De** and P. Chowdhury, "Cradle-Care: Enhancing Baby Safety Using IoT" 2024 IEEE Calcutta Conference (CALCON), Kolkata, India, 14-15 December 2024, pp. 1-5, doi: 10.1109/CALCON63337.2024.10914183.
- **A. Ghosh, A. K. Ghosh** and P. Chowdhury, "IoT-Enabled Smart College Clapper and Faculty Leave Management System," 2024 IEEE Calcutta Conference (CALCON), Kolkata, India, 14-15 December 2024, pp. 1-5, doi: 10.1109/CALCON63337.2024.10914068.
- **Aniket Mukhopadhyay**, Prashnatit Pal "A Proposed Model on mapping of Cardio Signal features with Classified Emotions using Modern Soft Computing Environment", International Conference on Biological Innovation, Technology, Engineering and Sciences (BITES-2024) Theme: The Future of Biological Innovation organized by Dept. of Biotechnology and Medical Engg., and Dept. of Mechanical Engg. (NIT Rourkela) in association with National Institute of Technology Uttarakhand on 18th - 20th December 2024.
- **Arpan Das, Aniket Mukhopadhyay**, Prashnatit Pal, "A Proposed Model for Effective Feature Extraction of ECG Signals in Emotion Classification using Deep learning & Machine Learning Algorithms" International Conference on Biological Innovation, Technology, Engineering and Sciences (BITES-2024) Theme: The Future of Biological Innovation organized by Dept. of Biotechnology and Medical Engg., and Dept. of Mechanical Engg. (NIT Rourkela) in association with National Institute of Technology, Uttarakhand on 18<sup>th</sup> - 20<sup>th</sup>, December, 2024.



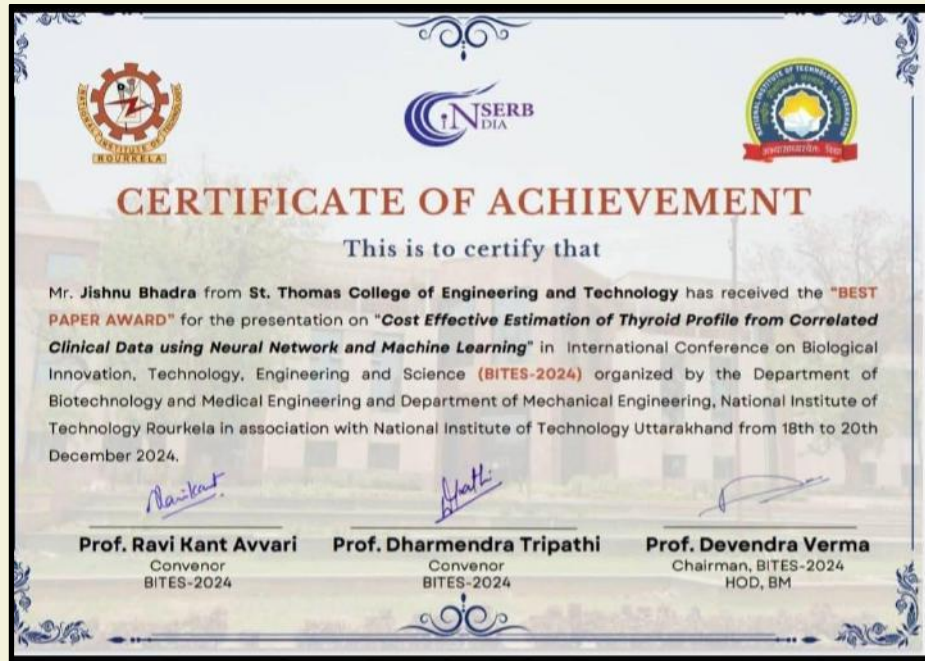


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- **J. Bhadra, R. Dutta, N. Khamaru**, P. Chowdhury, “Cost Effective Estimation of Thyroid Profile from Correlated Clinical Data using Neural Network and Machine Learning”, published in the proceedings of International Conference on Biological Innovation Technology, Engineering and Science (**BITES-2024**), NIT Rourkela and received the **BEST PAPER AWARD**.



- **Aditi Chaurasia, Rupsa Chakraborty**, students of third year, secured **3<sup>rd</sup> position** in Poster Presentation Competition on “**Recent Trends in Photonics**” organized by Research & Development Cell in Collaboration with IEEE Photonics Society, Kolkata Chapter in association with IEEE Student Branch of STCET, Kolkata “SMART LIGHTING SYSTEMS” On 18<sup>th</sup> November, 2024. Their poster on the topic “**SMART LIGHTING SYSTEMS**” earned appreciation for its innovation and clarity.
- **Raj Nandy**, student of ECE 1<sup>st</sup> year, has participated in **Indian Economy Vision Board & Investor Awareness Quiz** on 19/10/2024.







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**Souvik Pradhan**, student of fourth year, secured **1<sup>st</sup> position** in 400 meter, **2<sup>nd</sup> position** in long jump, **3<sup>rd</sup> position** in 200 meter and **3<sup>rd</sup> position** in 4×100 meter relay Sports Meet held on 17th December 2024, organized by St. Thomas College of Engineering & Technology.



### FACULTY ACHIEVEMENTS:

### PUBLICATION DETAILS:

#### PUBLISHED JOURNAL & CONFERENCE PAPERS

- **Ankush Chattopadhyay**, “**Linearity analysis of FE-based graded channel junctionless FET obtaining negative capacitance for low power applications**”, Micro and Nanostructure, vol. 196, no. 208013, Dec. 2024, doi: <https://doi.org/10.1016/j.micrna.2024.208013>
- **P. Pal**, R. Bhattacharya, and J. Poray, “**Segmentation of Pathological Primitive Conditions Based on the Visual Foundation Model**” Journal of the K.R. Cama Oriental Institute ISSN: 0970-0609. Volume No. 78 (October) 2024.
- Ipshita Bhattacharjee, Samhita Dasgupta, Shreya Firdoushi, Don Biswas, AHM Toufique Ahmed, **Sumani Mukherjee**, Rajib Bandyopadhyay, Bipan Tudu, “**A Simple Nano NiMn2O4 Functionalized Graphite Electrode for Electrochemical Detection of Cinnamic Acid in Cinnamon Bark**”, IEEE Sensors Journal, 24(23), 38613 – 38619, Oct. 2024.
- Samhita Dasgupta, AHM Toufique Ahmed, Ipshita Bhattacharjee, Shreya Firdoushi, Don Biswas, **Sumani Mukherjee**, Bidya Mondal, Rajib Bandyopadhyay, Bipan Tudu, “**Electrochemical detection of indigo carmine in candies using Y2O3 nanoparticles infused graphite electrode**”, Journal of Food Composition and Analysis, 135, 106626, Nov. 2024.
- S. Khan, A. Mukherjee, S. K. Mitra, **Dipankar Kundu**, “**A Li-Fi-based System for Simultaneous Monitoring of Various Industrial Parameters**”, Advance Research in Communication Engineering and its Innovations, 38-50, Dec. 2024.
- Somali Sikder, Madhumita Sarkar, **Shila Ghosh** “**Secured Transmission of images using designed Transposed Modified Walsh Code (TMWC) in OCDMA System**” IEEE Calcutta Conference (CALCON) 2024, which is scheduled for December 14-15, 2024.





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- **Sudipta Dutta, Shila Ghosh**, “**Quantum Information Processing with Photons: Circuit Model**”, Proceedings of OPTOIn-2024, XLVII OSI SYMPOSIUM International Conference on Advances in Optics and Photonics Instrumentation, Chandigarh, India, Page 606, 23-25 October, 2024.
- **Juin Acharjee** et. al. “**A Wideband WiFi/NB-IoT On-Glass Antenna for Smart Building Applications**,” IEEE 18th European Conference on Antennas and Propagation, 2024 December.
- **P. Pal**, R. Bhattacharya, and J. Poray “**An Equilibrium-Based Logistic Proof of the Polenac's Conjugation**” 9th Online International Conference on ANCIENT MATHEMATICS & SCIENCE FOR COMPUTING 20th - 21st December 2024 at Birla Institute of Technology, Off Campus Deoghar, Jasidih, Jharkhand, India.
- **Pal, P.**, & Mallick, A., “**A Novel Encrypted High Frequency FSK Modulation Technique Powered by Microwave Gunn Oscillator**,” Proceedings of the 6th URSI Regional Conference on Radio Science – RCRS 2024.
- **P. Pal** and R. Dhara, “**The Impact of Small Non-Coding RNA RsaE on Biofilm Development in Staphylococcus Aureus**,” 2024 3rd Edition of IEEE Delhi Section Flagship Conference (DELCON), New Delhi, India, Nov. 2024, pp. 1-6, doi: 10.1109/DELCON64804.2024.10867092.

### PARTICIPATION IN FACULTY DEVELOPMENT PROGRAMME (FDP):

<b>Prashnatit Pal</b>	Successfully completed Five days Online FDP on “ <b>Emerging Technologies and Security Recent Trends</b> ” (CU38C)" ( 11 <sup>th</sup> to 15 <sup>th</sup> Nov, 2024); Techno India University ,West Bengal
	Successfully completed seven days online FDP “ <b>Deep Learning &amp; AI Based Healthcare Systems</b> ” Dec 18th – 24th 2024, Coimbatore Institute of Technology



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*“Innovation in Electronics is about making the complex simple, and the invisible visible.”*

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*Robert Noyce,  
Co-Inventor of the Integrated Circuit*

