

JULY TO SEPTEMBER 2024

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



VISION

To create a center for imparting technical education of international standards and conduct research at the cutting edge of electronics & communication technology to meet the current and future challenges of technological development.



MISSION

To create technical manpower for meeting the current and future demands of industry and academia: to recognize education and research in close interaction with electronics & communication & related industry with emphasis on the development of leadership qualities in the young men and women entering the portals of the institute with sensitivity to social development and eye for opportunities for growth in the international perspective.



JOURNAL/CONFERENCE/ BOOK PUBLICATIONS



S. Shrimal, R. Agrawal, I. B. Sharma, M. M. Sharma, "Wide Band Circular Polarized Reconfigure Antenna Using Gap Loaded Annular Ring" , AEUE - International Journal of Electronics and Communications Volume :178 // 2024

Arun Kishor Johar, Gaurav Kumar Sharma, Jai Kumar Bhatt, Ashish Kumar, Parvinder Singh, Tarun Varma, C. Periasamy, Ajay Agarwal, D. Boolchandani, "VOCs sensors based on bulk acoustic resonators: a comprehensive review", Microsystem Technologies Volume :11111 / 22222 / 2024 ISBN: 1432-1858 Online

Vikram Maurya and S. Singhal, "VO₂ Assisted Temperature Tunable Wideband Terahertz Absorber as a Biosensor", Materials Chemistry and Physics Volume :0 / 1-15 / 2024

Shreyas Tiwari, Rajesh Saha, Girdhar Gopal, Tarun Varma, "Sensitivity Analysis of Ge-Source Double Gate TFET under Heavy Ion Irradiation", IEEE Sensors Journal Volume :- / 11111 / 2024 ISBN: 1558-1748 (Online

Vikram Maurya and S. Singhal, "Triple Band Terahertz Absorption Based Fractal Ring Shaped Ultrathin Mustard Oil Adulteration Sensor" , Sensors and Actuators A:Physical Volume :0 / 1-10 / 2024

S Sharma, RP Yadav, V Janyani , "Substrate noise evaluation for lightly doped 45nm N-MOSFET using physical simulation models" , International Journal of Electronics, 2024 Volume :111 / 338-359 / 2024

Shashank Rai, Ritu Sharma, Rajesh Saha, Brinda Bhowmick, "Study on-trap sensitivity on Single material Gate and Double material Gate Nano Ribbon FETS" , Physica Scripta Volume :99 / 8 / 2024

Giriraj Sharma, Amit M Joshi, Saraju Mohanty, "sTrade 2.0: Efficient Mutual Authentication Scheme for Energy Trading in V2G using Physically Unclonable Function" , IEEE Journal of Emerging and Selected Topics in Industrial Electronics Volume :XX // 2024

Vikram Maurya and S. Singhal, "Solar energy harvesting using nanostructured ultrawideband absorber with nearly perfect thermal emission" , Solar Energy Materials and Solar Cells Volume :277 / 1-10 / 2024

Girdhar Gopal, Varnit Goswami, Arun Kishor Johar, Tarun Varma, "Simulation based analysis of HK-Ge-Step-FinFET and its usage as inverter & SRAM" , Physica Scripta Volume :99 / 1-13 / 2024 ISBN: 2.7

Ruchi Bhaskar, Bharat Choudhary, Rajesh Saha, "An Efficient PFSCl Based D-Latch Design Using Dynamic-Threshold Voltage MOSFET" , 2024 IEEE North Karnataka Subsection Flagship International Conference-NKCon by :IEEE at Bagalkote, India / 1-5 / 2024 ISBN: 979-8-3503-6456-9

Vandana Singh Rajawat, Ajay Kumar, Bharat Choudhary, "Physical Analysis of Lateral-BTBT Induced GIDL Current in GaN-Based FinFET Devices" , 2024 IEEE Open Conference of Electrical, Electronic and Information Sciences-eStream by :IEEE at Vilnius, Lithuania / 1-5 / 2024 ISBN: 979-8-3503-5241-2

Devenderpal Singh, Rajinikanth R, Rashi Chaudhary, Menka Yadav, "Energy Efficient Vedic Multiplier" , IATMSI by :IEEE at IIIT Gwalior / 1-6 / 2024 ISBN: 10.1109/IATMSI604

D. Singh, H. Chordiya, R. Chaudhary and M. Yadav, " Performance Analysis of FinFET Based Operational Amplifier at 20 Nm Gate Length" , IATMSI by :IEEE at IIIT Gwalior / 1-6 / 2024 ISBN: 10.1109/IATMSI604

Amit Mahesh Joshi, Paras Kor, "Smart Glucometer for Personalized Health Management of Diabetes Care" , 2024 6th International Conference on Software Engineering and Development by :Springer at Hong Kong / 73-81 / 2024

Silpa P Das, Ravi K Maddila, "LiFi System Design With Throughput Over 100 Tbps" , 16th International Conference on Fiber Optics and Photonics by :IIT Kharagpur at IIT Kharagpur // 2024

Book Chapter" Understanding the Effects of Temperature on Double Gate Doping-Less TFET's Analog/RF and Linearity Performance ISBN:978-981-99-6649-3_34 published by - Springer nature, Singapore Year 2024 Authors- Dewan, B., Kumar, A., Chaudhary, S., Yadav, M.

Book Chapter" Recent Advancement in TFET-Based Biosensor Addressing Technique and Outcome: A Review ISBN:978-981-97-3048-3 published by - Springer Tracts in Electrical and Electronics Engineering ((STEEE)) Year 2024 Authors- Girdhar Gopal, Meghna Kumawat and Tarun Varma.

PROJECTS

Project Investigator:

Prof. M.M. Sharma

Title of the Project:

Stacked Microstrip patch

Antenna for 4 frequency bands

Funding Agency: ISRO

Amount: 22.17 Lakhs

Duration: 2023-24

Project Investigator:

Dr Amit Mahesh Joshi

Title of the Project:

Onboard spectral preprocessing

for multispectral image

compression using FPGA

Funding Agency: ISRO

Amount: 18.62 lakhs

Duration: 2023-2025

Project Investigator:

Dr. Ritu Sharma

Title of the Project:

Design, Fabrication and

performance Evaluation of Flexible

Piezoelectric Biomechanical Energy

Harvester

Funding Agency: SERB-Power Grant

Amount: 53.97 lakhs

Duration: 2022-2025

Project Investigator:

Dr. Kuldeep Singh

Title of the Project:

Prototype Development of

Artificial Intelligence based

Portable Computer Aided

Diagnosis System for Silicosis

Funding Agency: Directorate of specially-

abled people, Govt. of Rajasthan

Amount: 22.59 lakhs

Duration: 2022-2024

Project Investigator:

Dr Amit Mahesh Joshi

Title of the Project:

IGLU Intelligent Glucose

Measurement Device

Funding Agency: DST

Amount: 10.5 lakhs

Duration: 2023-2024

AWARDS & HONOURS

*"Prof. Ghanshyam Singh", Vice Chair for given
by Prakash Bharti, IEEE Photonics India
Community Network- 2024*

EVENTS ORGANISED

*International Conference on 5th
International Conference on Data
Science and Applications (ICDSA
2024)*

Date: 17-19 July 2024

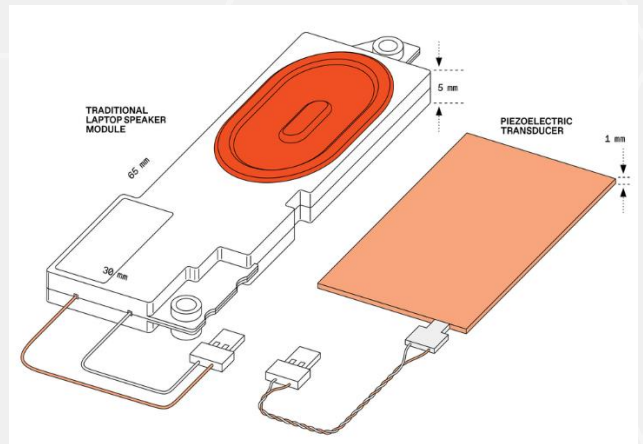


MODERN TECHNOLOGY

Smartphone Screens are about to become Speakers

Traditional speakers function by running a current through a coil, creating a magnetic field that moves a magnet attached to the speaker cone, which in turn displaces air to create a sound wave. The speaker can be no smaller than is allowed by the size of the coil and the cone, which must be wide enough and long enough to displace a reasonable volume of air. Its mechanical durability is limited by the precision with which its small moving parts must be assembled.

To do the job in smaller devices you need piezoelectric transducers. These are made up of tiny single crystals, such as quartz or some ceramics, with two electrodes attached. When you apply a voltage across the electrodes, the material physically bends. That bending is called the converse piezoelectric effect.



Replacing traditional speakers with piezoelectric transducers will allow devices to be much thinner.

*Source: IEEE Spectrum

STUDENTS CORNER

18th Convocation

UG Degrees Received: 110

PG Degrees Received: 64

PhD Degrees Received: 12

Gold Medals

UG: 1 PG: 3

MAJOR RECRUITERS

