



NEWS Letter

**FEB
2026**

SEMINAR ON INNOVATING INDUSTRY THROUGH INDUSTRIAL

IOT AND SMART TECHNOLOGIES

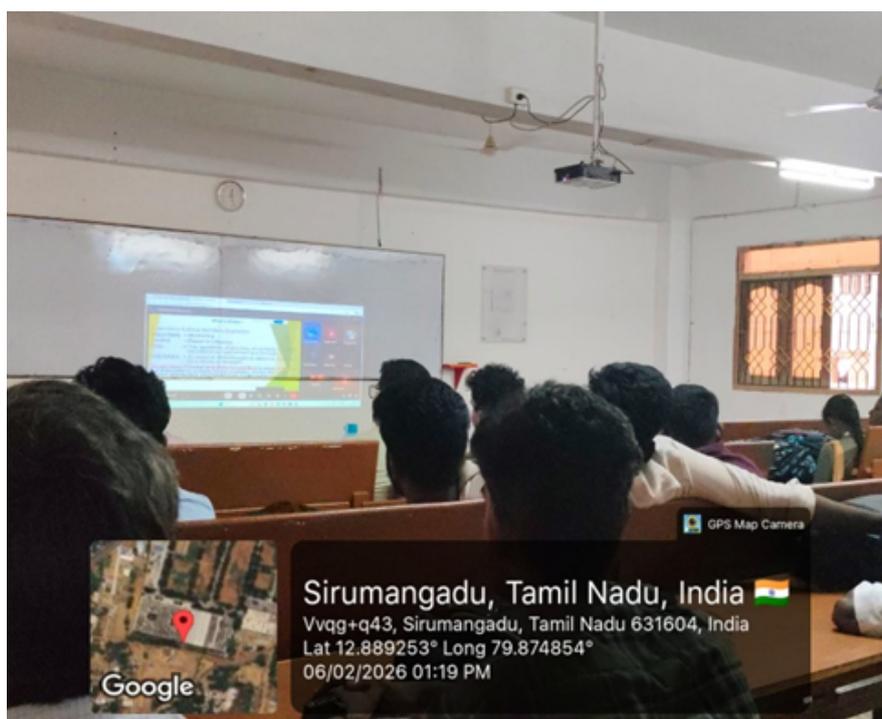
The poster is for a seminar titled "INNOVATING INDUSTRY THROUGH INDUSTRIAL IOT AND SMART TECHNOLOGIES". It is organized by the "INSTITUTION'S INNOVATION COUNCIL - IIC 8.0" in association with the "DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING". The speaker is "Dr. T Roosevelt Mohan", an Associate Professor (ECE) at Rajalakshmi Institute of Technology (Autonomous), Chennai. The seminar is scheduled for "FEBRUARY 06, 2026" at "12.45 PM" in "LH 06". The poster features logos for the Ministry of Education's Innovation Cell, IEEE, and the Institution's Innovation Council. At the bottom, it displays the logo for Jeppiaar Institute of Technology (JIT), an Autonomous Institution, along with accreditation logos for NAAC (A+) and NBA, and the TNEA Counselling Code "1140". The website "www.jeppiaarinstitute.org" is also listed.

The Institution's Innovation Council (IIC 8.0), in association with the Department of Electronics and Communication Engineering, organized an insightful seminar on "Innovating Industry through Industrial IoT and Smart Technologies" on February 6, 2026, at LH-06. The session was delivered by Dr. T. Roosevelt Mohan, Associate Professor (ECE) from Rajalakshmi Institute of Technology, Chennai. The event witnessed enthusiastic participation from students and faculty members eager to explore emerging trends in Industrial Internet of Things (IIoT).

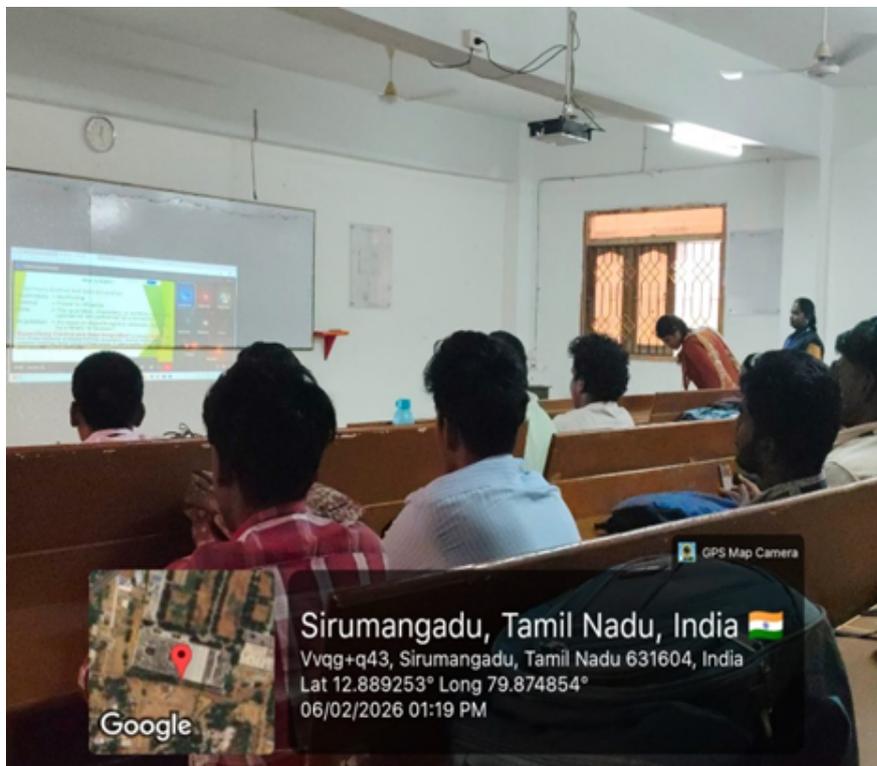
Dr. Mohan provided valuable insights into how Industrial IoT is transforming modern industries through automation, real-time monitoring, predictive maintenance, and data-driven decision-making. He highlighted the role of smart sensors, connected devices, and advanced analytics in improving productivity, efficiency, and safety across manufacturing sectors. The speaker also emphasized the importance of interdisciplinary skills and innovation to meet the evolving demands of Industry 4.0.

The seminar was organized under the guidance of the Institution's Innovation Council supported by the Ministry of Education Innovation Cell and in collaboration with IEEE. The program served as an excellent platform for students to understand real-world industrial applications of IoT and encouraged them to pursue research and innovation in smart technologies.

Overall, the session was highly informative and inspiring, equipping participants with knowledge about cutting-edge industrial solutions and future career opportunities in the field. The event reflects the continuous efforts of Jeppiaar Institute of Technology to promote innovation, technical excellence, and industry-relevant learning among students.







JEPPIAAR INSTITUTE OF TECHNOLOGY
(An Autonomous Institution)
"Self-Belief | Self-Discipline | Self-Respect"
Kunnam, Sunguvarchatram, Sriperumbudur – 631 604.



*Department of Electronics and Communication
Engineering*

**Seminar on Innovative Industry through
Industrial IoT and Smart Technologies**

Certificate of Honour



Dr. T Roosefert Mohan

Associate Professor/ECE,
Rajalakshmi Institute of Technology (Autonomous)

Thank you for your valuable
presence

Date : 06.02.2026

SEMINAR ON INNOVATING INDUSTRY THROUGH INDUSTRIAL IOT AND SMART TECHNOLOGIES

INSTITUTION'S INNOVATION COUNCIL - IIC 8.0
IN ASSOCIATION WITH
**DEPARTMENT OF ELECTRONICS AND
COMMUNICATION ENGINEERING**

Ministry of Education's INNOVATION CELL
GOVERNMENT OF INDIA

IEEE

Resource Person

SEMINAR ON
**INNOVATIVE APPLICATIONS OF INTEGRATED CIRCUIT
OPERATIONAL AMPLIFIERS IN MODERN ELECTRONICS**

Dr. V M Senthilkumar
Professor / EE(VLSI DT)

FEBRUARY 17, 2026 | 11.30 AM | LH 06
Rajalakshmi Institute of Technology (Autonomous),
Chennai.

JIT JEPPIAAR INSTITUTE OF TECHNOLOGY
(AN AUTONOMOUS INSTITUTION)

NAAC A+ NBA NATIONAL BOARD OF ACCREDITATION

TNEA COUNSELLING CODE
1140

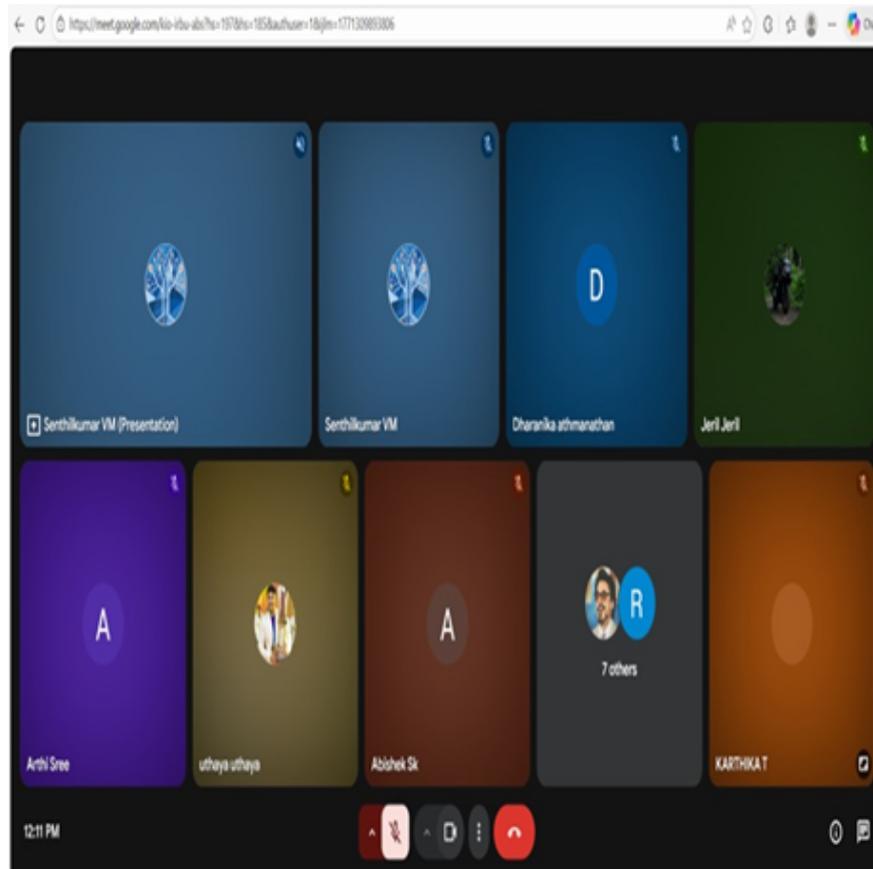
www.jeppiarinstitute.org

The Institution's Innovation Council (IIC 8.0), in association with the Department of Electronics and Communication Engineering, organized a seminar on "Innovative Applications of Integrated Circuit Operational Amplifiers in Modern Electronics" on February 17, 2026, at LH-06. The session was delivered by Dr. V. M. Senthilkumar, Professor (EE-VLSI DT) from Rajalakshmi Institute of Technology, Chennai. The event attracted active participation from students and faculty members interested in advanced electronic circuit design and applications.

During the seminar, Dr. Senthilkumar explained the fundamental concepts and practical importance of operational amplifiers (op-amps) in modern electronic systems. He highlighted their versatile applications in signal conditioning, filtering, amplification, instrumentation, communication systems, and embedded technologies. The speaker also demonstrated how integrated circuit op-amps play a crucial role in developing compact, efficient, and high-performance electronic devices used in both consumer and industrial domains.

The program was conducted under the guidance of the Institution's Innovation Council supported by the Ministry of Education Innovation Cell and in collaboration with IEEE. The session provided valuable exposure to real-world design considerations, encouraging students to strengthen their analytical skills and pursue innovation in electronic system development

Overall, the seminar was highly informative and enriching, offering participants a deeper understanding of operational amplifier technologies and their growing significance in modern electronics. The event reflects the commitment of Jeppiaar Institute of Technology to fostering technical excellence, research orientation, and industry-relevant learning among students.







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*Department of Electronics and Communication
Engineering*

**Seminar on Innovative Applications of Integrated
Circuit Operational Amplifiers in Modern Electronics**

Certificate of Honour



Dr. V M Senthilkumar

Professor / EE (VLSI DT)

Rajalakshmi Institute of Technology

Thank you for your valuable presence

Date : 17.02.2026

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

HANDS ON WORKSHOP WHAT YOU WILL LEARN



The poster is for a 5-day hands-on workshop on AR/VR development. It features a black background with yellow and white text. At the top, it says 'INSTITUTION INNOVATION COUNCIL (IIC) - 8.0' and 'DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING'. Below that, it says 'X AR VR RESEARCH AND DEVELOPMENT CENTRE'. The main title is 'WORKSHOP' in large, bold letters, with 'WHAT YOU WILL LEARN?!' underneath. Logos for Unreal Engine, Unity, and Blender are displayed. A QR code is provided for registration. The event is held at IdeaLab from February 10th to 16th, 2026, from 9:00 AM to 3:15 PM. Faculty coordinators are Mr. Saleem Nawaz and Mrs. Indumathi. Student coordinators are Bharani Dharan, Sumanth Raaj, and Sanath Lal Shibu Lekha. The bottom of the poster includes logos for JIT, Jeppiaar Institute of Technology, A++ Accredited, NBA, and TNEA Counselling Code 1140.

**INSTITUTION INNOVATION COUNCIL
(IIC) - 8.0**

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

X

AR VR RESEARCH AND DEVELOPMENT CENTRE

A 5-DAY HANDS-ON

WORKSHOP

WHAT YOU WILL LEARN?!

UNREAL ENGINE

Unity

blender

SCAN TO REGISTER

IdeaLab

From 10th Feb to 16th Feb, 2026

9:00 AM to 3:15 PM

FACULTY COORDINATORS:

- Mr. Saleem Nawaz - Incubation Manager
- Mrs. Indumathi - AP/ECE, AR/VR In-Charge

STUDENT COORDINATORS:

- Bharani Dharan - 2nd Year, AI & DS
- Sumanth Raaj - 2nd Year, AI & DS
- Sanath Lal Shibu Lekha - 3rd Year, CSE

JIT JEPPIAAR INSTITUTE OF TECHNOLOGY (AN AUTONOMOUS INSTITUTION)

A++ Accredited

NBA

TNEA COUNSELLING CODE 1140

www.jeppiaarinstitute.org

The Institution Innovation Council (IIC 8.0), in association with the Department of Electronics and Communication Engineering and the AR/VR Research and Development Centre, organized a 5-Day Hands-on Workshop on AR/VR Development from February 10 to 16, 2026, at the IdeaLab of Jeppiaar Institute of Technology. The workshop aimed to equip students with practical skills in immersive technology development and expose them to emerging tools used in the gaming, simulation, and metaverse industries.

Throughout the program, participants received intensive training in industry-standard platforms such as Unreal Engine, Unity, and Blender. The sessions covered fundamental concepts of Augmented Reality (AR) and Virtual Reality (VR), 3D modeling, environment design, animation, interaction techniques, and application deployment. Students engaged in hands-on activities that enabled them to design immersive scenes, create virtual objects, and understand real-time rendering workflows.

The workshop was coordinated by faculty members Mr. Saleem Nawaz (Incubation Manager) and Mrs. Indumathi (AP/ECE, AR/VR In-Charge), with active support from student coordinators across departments. The interactive nature of the training encouraged collaboration, creativity, and problem-solving skills among participants, enabling them to transform theoretical knowledge into practical applications.

Overall, the program proved to be highly beneficial, providing valuable exposure to cutting-edge immersive technologies and future career opportunities in AR/VR development. The initiative reflects the commitment of Jeppiaar Institute of Technology to fostering innovation, interdisciplinary learning, and industry-relevant technical expertise among students.







RESEARCH METHODOLOGY

WEBINAR ON AI TOOL FOR RESEARCHERS

INSTITUTION'S INNOVATION COUNCIL - IIC 8.0
IN ASSOCIATION WITH
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Webinar
On
"AI TOOL FOR RESEARCHERS"

RESOURCE PERSON

Mrs. R. MADHUMITHA,
ASSISTANT PROFESSOR
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
ST. JOSEPH'S COLLEGE OF ENGINEERING

FEBRUARY 24, 2026 | 9:00 AM TO 10:00 AM | LH 06
JEPPIAAR INSTITUTE OF TECHNOLOGY

JIT **JEPPIAAR INSTITUTE OF TECHNOLOGY**
(AN AUTONOMOUS INSTITUTION) www.jeppiarinstitute.org

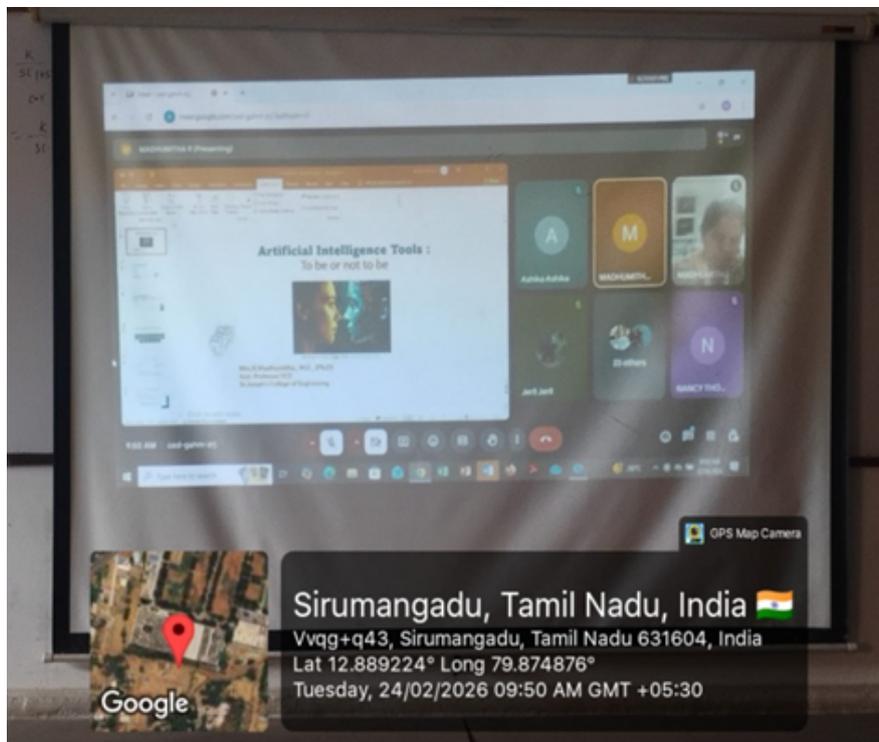
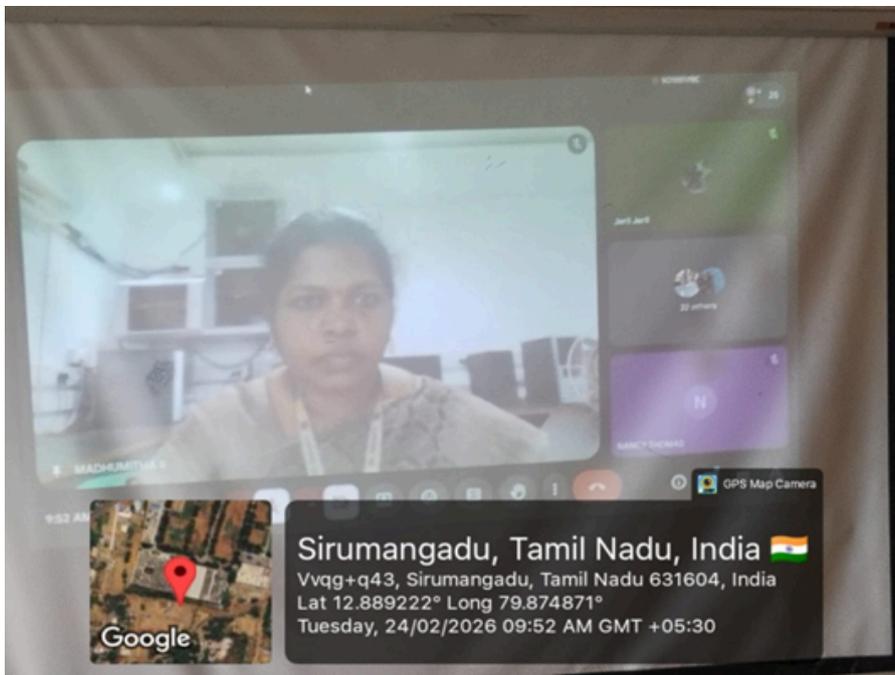
NAAC A+ NBA TNEA COUNSELLING CODE **1140**

The Institution's Innovation Council (IIC 8.0), in association with the Department of Electronics and Communication Engineering, organized a webinar on "AI Tool for Researchers" on February 24, 2026, from 9:00 AM to 10:00 AM at LH 06, Jeppiaar Institute of Technology (JIT). The session was conducted with the objective of introducing faculty members and students to the growing significance of Artificial Intelligence tools in academic research and innovation.

The resource person for the webinar was Mrs. R. Madhumitha, Assistant Professor, Department of Electronics and Communication Engineering, St. Joseph's College of Engineering. She delivered an insightful presentation on the effective use of AI-powered tools for literature review, research paper drafting, plagiarism checking, data analysis, and reference management. She emphasized how AI can enhance research productivity, improve accuracy, and save time when used ethically and responsibly.

During the session, participants gained practical knowledge about integrating AI tools into their research workflow. The speaker also discussed the importance of maintaining academic integrity while leveraging AI technologies. The interactive segment allowed attendees to clarify their doubts and understand real-time applications of AI in research activities.

The webinar witnessed enthusiastic participation from students and faculty members, making it a successful and informative event. The session concluded with a note of appreciation to the resource person for sharing her expertise and guiding aspiring researchers toward smarter and more efficient research practices.







STUDENT ARTICLE

SEMICONDUCTOR TECHNOLOGY CURRENT TRENDS



*ASHIKA J
II ECE*

Semiconductor technology continues to experience significant advancements in February 2026, driven by increasing demand for high-performance computing, artificial intelligence hardware, and energy-efficient electronic systems. Global research efforts are focused on improving transistor scaling, fabrication precision, and chip performance while reducing power consumption. Advanced process nodes below 5 nm are being optimized to enhance switching speed and device density, enabling compact and powerful integrated circuits for modern applications such as AI processors and data centres.

In India, semiconductor development has gained strong momentum under initiatives promoted by the Ministry of Electronics and Information Technology, with emphasis on domestic chip design, fabrication facilities, and advanced packaging technologies. Investments in semiconductor manufacturing plants and research collaborations aim to reduce import dependency and strengthen supply chain resilience. These initiatives are supporting the growth of indigenous VLSI design startups and semiconductor ecosystem development.

Material innovation is another key trend in February 2026. Wide-bandgap semiconductor materials such as silicon carbide (SiC) and gallium nitride (GaN) are increasingly adopted for high-power and high-frequency applications. These materials offer superior thermal conductivity, higher breakdown voltage, and improved efficiency compared to traditional silicon-based devices. Their applications are expanding in electric vehicles, renewable energy converters, RF amplifiers, and 5G communication infrastructure.

Artificial intelligence integration within semiconductor design is also transforming the industry. Companies like Intel, TSMC, and NVIDIA are leveraging AI-driven chip design tools to optimize layout planning, defect detection, and performance simulation. AI-assisted Electronic Design Automation (EDA) tools are reducing development time and improving manufacturing accuracy, leading to faster innovation cycles.

Overall, February 2026 highlights rapid progress in semiconductor scaling, material engineering, AI-assisted chip design, and domestic manufacturing expansion. These developments demonstrate the critical role of semiconductor technology in shaping the future of computing, communication systems, and power electronics across global industries.

DHRUV x64: India's Indigenous 64-bit Microprocessor Revolution

Electronics and Communication Engineering (ECE) is advancing rapidly with breakthroughs in semiconductor technology, embedded systems, and high-performance computing. A landmark achievement in India's electronics sector is the DHRUV x64 (DHRUV64) microprocessor—an entirely indigenous processor developed to strengthen technological self-reliance, innovation, and national capability in advanced electronics.

DHRUV x64 is India's first indigenous 64-bit dual-core microprocessor operating at 1 GHz, designed by the Centre for Development of Advanced Computing (C-DAC) under the Microprocessor Development Programme. This processor represents a major milestone in India's semiconductor ecosystem by reducing dependence on imported chips and proprietary technologies. Built on the open-source RISC-V instruction set architecture, DHRUV64 enables system designers, researchers, and startups to develop advanced computing solutions without costly licensing requirements.

Technically, DHRUV x64 belongs to the application-class processor category rather than traditional low-power microcontrollers. Its key features include a 64-bit dual-core architecture, 1.0 GHz clock speed, out-of-order execution pipeline for enhanced performance, Memory Management Unit (MMU) for multitasking, floating-point support for scientific and signal-processing applications, and compatibility with Linux-based operating systems. These capabilities make it suitable for complex computing tasks, real-time processing, and scalable embedded platforms.

The processor enables a wide range of modern ECE applications. It can support 5G communication infrastructure, automotive electronics and smart vehicles, industrial automation, Internet of Things (IoT) systems, defence and strategic electronics, as well as edge computing and data analytics. Its flexible architecture allows seamless integration with external peripherals, sensors, and communication modules, making it ideal for next-generation intelligent systems.

For ECE students and professionals, DHRUV x64 opens new avenues for learning and innovation. It provides a domestic platform for embedded system development, hands-on exposure to processor architecture, opportunities for chip design research, and support for indigenous technology startups. With India consuming a significant share of global semiconductor products, local processor development is crucial for strengthening the Electronics System Design and Manufacturing (ESDM) ecosystem and ensuring technological sovereignty.

DHRUV64 also aligns with national initiatives aimed at building a self-reliant digital infrastructure. It is part of India's broader push toward indigenous computing solutions and future processors, paving the way for advanced System-on-Chip (SoC) designs and high-performance computing platforms developed within the country.

In conclusion, the DHRUV x64 microprocessor represents a major contemporary trend in Electronics and Communication Engineering—indigenous semiconductor innovation. By combining open architecture, high performance, and domestic development, it strengthens India's technological independence while providing engineers with a powerful foundation for next-generation communication, embedded, and intelligent electronic systems.

Discovery of a New Quantum State: A Breakthrough in Future Electronics



*HARISH J
III ECE*

A recent breakthrough in condensed matter physics has led to the discovery of a new quantum state of matter, marking a significant advancement in modern electronics research. This discovery opens new possibilities for next-generation electronic devices, quantum computing systems, and ultra-sensitive sensors. Unlike traditional states of matter such as solid, liquid, gas, and plasma, quantum states emerge under extreme conditions where the behaviour of electrons is governed by the principles of quantum mechanics.

In classical semiconductor theory, electrons are often treated as independent charge carriers moving through a lattice. However, in this newly identified quantum state, electrons exhibit strong correlation, meaning their motion becomes highly synchronized and interdependent. This collective behaviour results in electronic properties that cannot be explained using conventional semiconductor models. Such correlated systems are of great interest because they may enable highly efficient charge transport with reduced energy loss. One of the most promising aspects of this discovery is the potential presence of topological characteristics. Topological states are known for their robustness against defects, impurities, and minor structural disturbances. In practical terms, this means electronic pathways can remain stable even when imperfections are present in the material. Stability is one of the most critical requirements for advanced electronic and quantum devices.

The implications for quantum computing are particularly significant. Quantum computers rely on qubits that are extremely sensitive to environmental noise and thermal disturbances. If this new quantum state can provide improved stability and reduced decoherence, it may contribute to the development of more reliable and scalable quantum processors. This would accelerate advancements in artificial intelligence, cryptography, and high-performance computing.

For students in Electronics and Communication Engineering, this breakthrough highlights the importance of strong fundamentals in solid-state physics, semiconductor devices, and material science. As the electronics industry gradually moves beyond traditional silicon-based technologies, understanding emerging quantum materials will be essential for future engineers. Countries worldwide are investing heavily in semiconductor research and quantum technologies, signalling a paradigm shift in the design and development of electronic systems.

In conclusion, the discovery of a new quantum state represents more than a theoretical advancement—it signals the beginning of a new era in electronics. By unlocking novel electronic behaviours at the quantum level, researchers are paving the way for more stable, efficient, and powerful technologies. This innovation demonstrates how fundamental scientific research can shape the future of practical electronic applications.