AHALIA SCHOOL OF ENGINEERING AND TECHNOLOGY

IETE-ISF NEWSLETTER

Principal's message

Importance of Professional Socities

Dr. PR Suresh

Professional Societies like IETE play a pivotal role in shaping the future of young engineers. They serve as platforms for students to go beyond textbooks – encouraging innovation, collaboration and continuous learning.

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Through Seminars, workshops and industry interactions members gain valuable insights in to emerging technologies and professional ethics. I strongly encourage students to actively participate in such societies to broaden their horizons and become responsible, future ready professionals.

Professional Societies also nurture leadership, team works and communication skill qualities essential for success in any technical career. By engaging with peers, mentors and industry experts, students gain a sense of community and a deeper understanding of their role in the broader technological eco system.

Written By: Ashrin A
S6 Student ,ECE

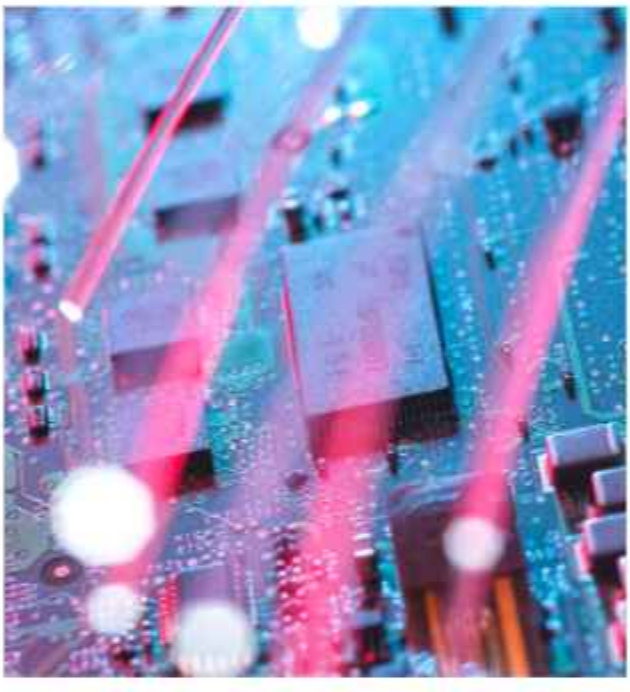
India's Semicon Mission: Paving the Way for Chip Sovereignty

India's Semicon Mission is a transformative initiative aimed at establishing the country as a global hub for semiconductor design and manufacturing. Launched under the Digital India initiative, the mission seeks to build a resilient semiconductor ecosystem through strategic investments, infrastructure support, and collaboration with industry leaders.

The mission emphasizes the development of semiconductor fabs, display manufacturing units, and design-linked incentive schemes. Partnerships with global players such as Micron, Tower Semiconductor, and AMD reflect India's growing prominence in the global semiconductor landscape.

Written By: Swetha C
Assistant Professor,ECE

Advanced Optoelectronics and Its Applications



Advanced optoelectronics combines light-based technologies with modern electronic systems to enable faster, more efficient, and compact devices. Going beyond traditional LEDs and photodiodes, the field now includes photonic integrated circuits (PICs), silicon photonics, and quantum dot devices.

These technologies are revolutionizing areas such as:

- Telecommunications: High-speed optical data transfer via fiber optics and PICs.
- Healthcare: Non-invasive diagnostics and biosensors using light-based detection.
- Autonomous Systems: LIDAR-based navigation in self-driving vehicles.
- Consumer Devices: High-efficiency OLED and microLED displays.
- Defense: Night vision and secure optical communication systems.

As demand grows for faster and smarter systems, optoelectronics is becoming central to innovations in computing, communication, and sensing.

Written By: Abhishek KV
S6 student ,ECE

Powering Innovation: The Synergy Between Electronics and AI

Electronics and Artificial Intelligence (AI) are driving technological breakthroughs across various fields. AI relies on powerful electronics like CPUs, GPUs, and FPGAs to process complex algorithms, enabling advancements in machine learning and deep learning.

Sensors are another key component, gathering real-world data that AI systems use to make informed decisions. Whether it's in autonomous vehicles or smart homes, these sensors enable AI to interact with the environment effectively.

Additionally, embedded systems allow AI to process data locally, reducing latency and making real-time decisions in critical applications like healthcare and robotics. AI is also revolutionizing electronics design, automating circuit layouts and improving manufacturing processes for smarter, more efficient devices.

In essence, electronics fuels AI, while AI accelerates innovations in electronics, forming a powerful synergy that is transforming the future of technology.

Event 1

Inauguration of IETE Student Chapter (ISF)

The IETE (Institution of Electronics and Telecommunication Engineers) Student Forum (ISF) of Ahalia School of Engineering and Technology (ASET) was officially inaugurated on 4th November 2024. The event, which was held at the Visveswaraya Hall, marked an important milestone for the institution in fostering professional development among students. Dr. Aneesh K , ISF –IETE chapter faculty in charge coordinated the event.The function commenced at 3:00 PM with a formal gathering of students, faculty, and distinguished guests. Shri Pankaj Kumar Vasisht, the Chairman & Managing Director of Instrumentation Limited, was the chief guest of the event and inaugurated the IETE Student Chapter (ISF).

Event 2

One-Day Hands-On Workshop On Open Source Digital IC Design

The IEEE Student Branch (SB) and IETE ISF chapter at ASET, in collaboration with the Department of Electronics and Communication Engineering (ECE), successfully conducted a one-day hands-on workshop on "Open Source Digital IC Design" on 6th January 2025. The workshop aimed to provide students with practical insights into the digital IC design process, utilizing open-source tools and technologies. The event proved to be an enriching experience for the participants, enhancing their knowledge of Integrated Circuit (IC) fabrication, VLSI, and open-source design platforms. The workshop was led by Dr. Arun NV, Assistant Professor, Department of ECE, TKM College of Engineering. Dr. Arun NV shared his expertise on the significance of IC fabrication and VLSI, emphasizing the need for open-source platforms in IC design. His insightful session laid the foundation for the hands-on activities that followed.

The workshop concluded at 3:30 PM. The event proved to be an insightful and valuable learning experience for all participants, providing them with a deeper understanding of the IC design process, tools, and industry practices. Students expressed their gratitude for the opportunity to work on a real-world design scenario and gain hands-on exposure to open-source digital IC design platforms.

Event 3

"Campus To Career : Mastering Resume Writing" Session

The IETE Student Chapter, in association with the Department of ECE, organized a session titled "Campus to Career: Mastering Resume Writing" on 15th January 2025, held at the Visveswaraya Seminar Hall, ASET. The objective of this session was to provide students with the necessary skills to create impactful resumes as they prepare to transition from their academic life to their professional careers. Dr.Krishna Kumar Kishor (Asst Director Academics) handled the session.

Event 4

"An Overview on VLSI Design Flow and FPGAs"

The IETE Student Branch and IEDC ASET in association with the department of Electronics and Communication Engineering organized a session on "An Overview on VLSI Design Flow and FPGAs" on 3rd February 2025 at Visvesvaraya Hall.

The event was inaugurated by Dr. P.R. Suresh, with felicitations from Dr. Krishnakumar Kishore (Vice Principal) and Dr. V. Balamurugan (HOD/ECE). Dr. Harish Ram discussed VLSI fundamentals, design flow, and FPGA applications. A hands-on demonstration using Xilinx Vivado was provided, highlighting FPGA design flow.

The session covered:

- VLSI Design Flow: Overview of design steps, including specification, RTL design, synthesis, and verification
- FPGA Basics: Introduction to FPGA architecture and its advantages in modern applications.
- Hardware Description Languages (HDLs): Brief discussion on VHDL and Verilog for FPGA programming.

Editorial Team

- Dr. Aneesh K (ISF staff In-charge)
- Mrs. Pooja P Menon (S6 -Student)
- Mr. Mridhul Krishna (S4 -Student)