

## **Report on the Add on Lecture " Foundations of Microfabrication: Processes, Tools and Device Realizations for Modern VLSI"**

The department of **Electronics Engineering(VLSI Design and Technology)** conducted an Add on Lecture titled "**Foundations of Microfabrication: Processes,Tools, and Device Realizations for Modern VLSI**" on **14-03-2026** at **10:00 AM to 12:30 PM**, in **Seminar Hall 2**.

### **Objectives of the Event**

The primary objectives of the event were:

- To introduce the fundamental concepts of microfabrication and its role in modern VLSI technology
- To understand various microfabrication processes such as photolithography, etching, oxidation, and deposition used in semiconductor device fabrication
- To provide exposure to fabrication tools and technologies used in semiconductor industries and research laboratories
- To bridge the gap between theoretical knowledge and practical implementation of VLSI devices through real-world fabrication insights

### **Event Overview**

The Add-on Lecture on "Foundations of Microfabrication: Processes, Tools, and Device Realizations for Modern VLSI" featured Dr. S. Harsha, Group Head of the Sensor Technology Development Centre at the Central Manufacturing and Technology Institute (CMTI). With extensive experience in sensor technology development, microfabrication processes, and semiconductor manufacturing, Dr. Harsha has contributed significantly to advancements in device fabrication and modern VLSI technologies.

During the session, he provided a comprehensive overview of microfabrication techniques used in semiconductor device manufacturing. He explained key fabrication processes such as oxidation, photolithography, deposition, etching, and doping, along with the tools and cleanroom environments required for precise device

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fabrication. The lecture highlighted how these processes enable the realization of modern VLSI circuits, MEMS devices, and sensor technologies.

The session was attended by Electronics Engineering(VLSI Design and Technology) students and faculty members, offering them valuable insights into the practical aspects of semiconductor fabrication and industrial practices. Dr. Harsha’s industry-oriented perspective helped participants understand how theoretical VLSI concepts are translated into real-world semiconductor devices, providing a deeper appreciation of microfabrication technologies used in modern electronics.



Figure 1: Ms. Manaswini, a 3rd year student from Department of VLSI Design and technology Presenting Welcome address in the seminar hall 2

### Guest Lecture session

Day	Time	Session Details
Saturday, March 14 2026	10.00 - 10.10 am	Welcome Address
	10.10 - 12.30 pm	Add on Lecture

Table 1: Schedule of the Event

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Figure 2: Group photo with a few students and faculty members.



Figure 3: Lecture by the speaker

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## **Outcomes and Impact**

- Enhanced Understanding of Microfabrication-Participants gained a clear understanding of fundamental microfabrication processes and their role in the fabrication of semiconductor devices and modern VLSI systems.
- Exposure to Industry Practices-The session provided insight into real-world fabrication tools, cleanroom environments, and industrial practices used in semiconductor manufacturing and sensor technology development.
- Bridging Theory and Practice-Students were able to connect their theoretical knowledge of VLSI design with the practical processes involved in device realization and fabrication.
- Motivation for Research and Careers-The lecture encouraged students to explore research opportunities and career paths in areas such as semiconductor fabrication, MEMS technology, and advanced VLSI design.

## **Conclusions**

The lecture concluded with an engaging QA discussion, in which students and faculty interacted with Dr. S Harsha.

**Report by:** Assistant Prof. Inchara K M

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MVJ College of Engineering