

**Area / Group Name: Semiconductor Devices**

The objective of the Group's research is to create an ecosystem which leads to collaborative work in new technologies that enable advances in modern VLSI devices & circuits including device physics, materials and processes and low power IC design. The research group conducts studies on the electrical properties and characteristics of advanced nano-scale devices. The research undertaken within this group includes Modeling and Simulation of Semiconductor Devices, FETs Based Biosensors, Reliability Analysis for Semiconductor Devices, Modeling of FinFET parasitic capacitance, Delay modeling of digital circuit modules, Digital VLSI circuit design, VLSI device-circuit co-design, SOI MOSFET (FDSOI & PDSOI) and their circuit applications in SRAM memories and ultra low power digital Circuit Design, synthesis, characterization and fabrication of various organic and inorganic materials based electronic devices, and fabrication of devices using various thin film deposition techniques.

Currently, 15 faculty members are working in this broad area. Three PhD research scholars are also working in the same field. Around 244 research papers in reputed International Journals and many more conference papers, book chapters have been published in this area by the faculties and students of the department of ECE, JIIT.