



IEEE Electron Devices Society



Indian Institute of Information Technology Design and Manufacturing, Kancheepuram

Three days Hands-on Training on **Semiconductor Workforce Development and Open Source AI Tools for Research**

9th - 11th June 2025

Organizing Institute

Indian Institute of Information Technology Design and Manufacturing Kancheepuram is a Centre of Excellence for technical education and research established by the Ministry of Education, Government of India to pursue design and manufacturing oriented engineering education and research and to promote the competitive advantage of Indian products in global markets. The institute has several centers of excellences like Teaching Learning Centre, Incubation Centre, Smart Manufacturing, Semiconductor Materials and Devices lab, Microelectronics and VLSI lab, Bio-inspired lab, Photovoltaics Lab, etc. with cutting edge research facilities and advanced tools in the respective domains.

About the Training

Sentaurus TCAD is a comprehensive simulation tool developed by Synopsys for modeling and analyzing semiconductor devices and processes. It enables detailed, physics-based simulation of MOSFETs, FinFETs, LEDs, and solar cells, Power Devices, supporting 2D and 3D geometries. The platform includes tools for device structure generation, process simulation, electrical characterization, and result visualization. Participants will work directly with industry-standard TCAD software to perform simulations, analyze results, and understand the impact of design variations on device performance. In addition the training introduces the application of open source AI tools in scientific research.

Tentative Schedule

Day 1: 09/06/2025 Time : 9.30 AM- 4.00 PM	<ul style="list-style-type: none">• Introduction to Technology Computer Aided Design• Creating Editing and Running Sentaurus Structure Editor• Sentaurus Device
Day 2: 10/06/2025 Time : 9.30 AM- 4.00 PM	<ul style="list-style-type: none">• Introduction to VLSI fabrication principles• Sentaurus Process Simulation
Day 3: 11/06/2025 Time : 9.30 AM- 4.00 PM	<ul style="list-style-type: none">• Visualizing TCAD Simulation results using Sentaurus Visual• Electrical Characterisation with Parameter Analyzer• Open Source AI tool for Research

How to Register

The registration is open to all UG/PG/Ph.D./Academicians/ Industry Professionals working in the broad aspects of Electron Devices, optoelectronics, nanoelectronics. The event is a physical IEEE EDS event scheduled to be held at IIITDM Kancheepuram campus, which is situated in Chennai. <https://www.iiitdm.ac.in/>

Link to Register: [Registration Link](#)

IEEE EDS IIITDM Student Branch Chapter:

<https://bit.ly/IEEE-EDS-SBC-IIITDM-KANCHEEPURAM>

*Registration fee includes registration kit, lunch, high-tea, course materials and tool access for all 3 days. Accommodation extra on availability basis.

Registration Fee* Details

Student/Research Scholar:

IEEE Member: ₹ 1000/-

Non-IEEE Member: ₹ 1500/-

Academician:

IEEE Member: ₹ 2000/-

Non-IEEE Member: ₹ 2500/-

Industry Professional:

IEEE Member: ₹ 3000/-

Non-IEEE Member: ₹ 3500/-

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