

## KURUKSHETRA

Kurukshetra is popularly known for its historical and religious importance. Here, the battle of Mahabharata was fought, and Lord Shree Krishna delivered the divine message as enshrined in the holy book “Shrimad Bhagwad Gita”. It is also known as DHARAMKSHETRA and attracts devotees from all corners of the world all around the year. Kurukshetra is very well connected by Rail, Delhi- Ambala section, Road (NH1, connecting Delhi- Chandigarh- Amritsar-Jammu) and Air (Delhi 160 km and Chandigarh 80km). The NIT Kurukshetra campus is situated about 10 km from Pipli, Bus stand located on NH1 and about 4 km from Kurukshetra railway station.

## NATIONAL INSTITUTE OF TECHNOLOGY KURUKSHETRA

NIT Kurukshetra, formerly Regional Engineering College Kurukshetra was founded in 1963. It was conferred upon the NIT status, with Deemed University on June 26, 2002. The Institute offers courses in various disciplines of B.Tech., M.Tech., MBA, MCA and Ph.D. with an annual intake of about 1500 students. Institute also provides excellent facilities for advanced research in the emerging areas of Engineering, Science, and Technology. The institute has well-qualified and dedicated faculty, supporting staff, laboratories and other infrastructure. The infrastructure is geared to enable the institute to produce technical personnel of high quality.

## SCHOOL OF VLSI DESIGN AND EMBEDDED SYSTEMS

The School of VLSI Design and Embedded Systems was established in the Year 2011. The school offers two M.Tech. programs and Ph.D. in the area of VLSI Design and Embedded System Design. School of VLSI Design and Embedded Systems has MoU with the Semi-Conductor Laboratory (SCL) Mohali. Under the MoU, two ICs have been fabricated. SMDP projects funded by Meity, Government of India have been executed since 2007. Under these projects, a professional VLSI design lab has been established. The school is proud to have had a record good placement for the last 5 years in leading core MNCs. Each year, many students of the school got selected for higher studies in the world's most reputed Universities and Institutes. The school is equally active in research with many quality publications each year in reputed Journals.

## PATRON

Prof. B V Ramana Reddy  
Director, NIT Kurukshetra

## CONVENER

Prof. R. K. Sharma  
Dean (R & C)  
NIT Kurukshetra

## COURSE COORDINATORS

Dr. Gaurav Saini and Dr. Dharmendra Singh Yadav  
Assistant Professor, ECED, NIT Kurukshetra

## IMPORTANT DATES

- Last date for submission of filled RegistrationForm: March 1, 2024
- Confirmation to the participants (on website or by email): on or before **March 2, 2024**

## Address for Correspondence:

**Dr. Dharmendra Singh Yadav**  
Assistant Professor,  
Department of ECE,  
NIT Kurukshetra  
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Phone: 9425482653



## Short-Term Training Program (Hybrid Mode) on

**Nano-Scale Devices: Recent Advancement  
and Future of Semiconductor Industry  
(NSD-2024)**

**(March 4-8, 2024)**



## Organized by

**School of VLSI Design and Embedded Systems  
National Institute of Technology Kurukshetra  
Kurukshetra-136119, Haryana, India**

## OBJECTIVE OF STTP

The primary objective of the STTP is to learn and explore the current trends in semiconductor devices and future prospects for the semiconductor industry, especially from an Indian perspective. Apart from theoretical knowledge, hands-on sessions will also be conducted using TCAD software. The laboratory experiments will cover the design of novel semiconductor devices and the device-circuit co-design aspect also. After attending this STTP, participants will be able to understand the fundamentals of novel device physics and architectures. This STTP also trains the participants to design novel devices considering device-circuit co-design aspects.

## STTP CONTENTS

### The following topics will be covered during the training program

- Basics of MOS Devices
- Advanced Nanoscale Devices
- Device-Circuit Co-Design principles
- Hands-on Training on “TCAD tool”
- FinFET/Nano-Sheet Device Design
- CMOS Circuit Implementation using 2D Device Drawing method
- Design of GDS file using Klayout
- 3D Device model from GDS using gds2mesh
- 3D Circuit or 3D Device simulation and characterization
- Scientific Research: Metrics & Visibility
- Any other related topic

## RESOURCE PERSONS

The resource persons will be from premier Institutions of India like IITs, NITs, and experts from Industries/ Govt. organizations.

## WHO CAN ATTEND?

Faculty members/ research scholars/ students from academic institutes approved by the AICTE/ UGC/ MHRD and Scientists/ Engineers working in Private/ Public/ Govt. organizations/ industries etc. can attend the course. However, faculty members and research scholars engaged in Ph.D will be greatly benefited. The application should be made on the registration form and should accompany the registration fee as mentioned below:

| Participant's category             | Registration fee* |
|------------------------------------|-------------------|
| Students/ Research Scholars        | Rs. 500/-         |
| Faculty                            | Rs. 1000/-        |
| Industry/ R&D / Govt. Organization | Rs. 3000/-        |

\* **Registration fee is non-refundable.**

Registration fee includes course e-certificate.

**The Registration fee is to be paid through SBI Collect.**  
Go to SBI collect – Select Education Institutions – Select State as Haryana – Director National Institute of Technology Kurukshetra – Select **NSD-2024** as payment category – follow the steps – Make the payment and collect the receipt.

The brochure with the registration form can be downloaded from the Institute website [www.nitkkr.ac.in](http://www.nitkkr.ac.in)

## How to Apply

Interested candidates can apply online by clicking the link: <https://forms.gle/jBWcsd1qwVH88o5Y7>

Participant details need to be filled and payment details be uploaded by using the above link in Google Forms on or before March 1, 2024.

## Registration Deadline: March 1, 2024

**Note:** The participants need to upload (i) Proof of payment (a receipt of SBI collect payment) and (ii) Signed copy of the registration form by March 1, 2024.

## REGISTRATION FORM Short-Term Training Program

### Nano-Scale Devices: Recent Advancement and Future of Semiconductor Industry (NSD-2024)

**March 4-8, 2024**

|  |                                |
|--|--------------------------------|
| <b>Title: (Dr./Mr./Mrs./Ms.) :</b>   |                                |
| <b>Name (in BLOCK LETTER) :</b>  |                                |
| <b>Qualification</b>   |                                |
| <b>Sex (M/F) :</b>   |                                |
| <b>Date of Birth:<br/>(dd/mm/yyyy)</b>   |                                |
| <b>Designation :</b>   |                                |
| <b>Organization:</b>   |                                |
| <b>Address for<br/>correspondence:</b>   |                                |
| <b>Phone :</b>   |                                |
| <b>E-mail :</b>  |                                |
| <b>Category (Please Tick) : Students/ Faculty/ Industry/R&amp;D<br/>/ Govt. Organization</b> |                                |
| <b><u>Payment Details</u></b>  |                                |
| <b>Transaction ID/<br/>Reference ID:</b>   |                                |
| <b>Date of Payment:</b>  |                                |
| <b>Amount :</b>  |                                |
| <b>Attachment(s)</b>   | <b>Fee Payment<br/>Receipt</b> |
| <b>Signature of applicant (with date):</b>   |                                |

**REGISTRATION FORM**  
**Short-Term Training Program**  
**Nano-Scale Devices: Recent Advancement and**  
**Future of Semiconductor Industry (NSD-2024)**  
**(March 4-8, 2024)**

**Title: (Dr./Mr./Mrs./Ms.) :**

**Name (in BLOCK LETTER) :**

**Qualification :**

**Sex (M/F) :**

**Date of Birth: (dd/mm/yyyy):**

**Designation :**

**Organization :**

**Address for correspondence :**

**Phone :**

**E-mail :**

**Category (Please Tick) : Students/ Faculty/ Industry/ R&D / Govt. Organization**

**Payment Details**

**Transaction ID/**

**Reference ID:**

**Date of Payment:**

**Amount :**

**Attachment**

Fee Payment Receipt

**Signature of applicant (with date):**

The candidates need to fill the form given at the link

<https://forms.gle/jBWcsd1qwVH88o5Y7>



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