



# Electronics & ICT Academy IIT Roorkee



An Initiative of  
**Ministry of Electronics  
& Information  
Technology (MeitY)**  
Government of India

## A Joint Faculty Development Programme on

## Semiconductor Devices, circuits & Sensors: Applications & Research Perspective

In association with



**June 9 – June 16, 2025**

**Register Before: June 7, 2025**

**Mode of Delivery is Online**

### Course Outcomes

- Understand core semiconductor and sensor principles.
- Analyze and design electronic circuits.
- Apply simulation tools for modeling and testing.
- Integrate sensors into real-world applications.
- Identify research directions in devices and sensors.
- Improve teaching and curriculum development.
- Facilitate industry-relevant academic projects.



### About E&ICT Academy

Electronics and ICT Academy is an initiative of Ministry of Electronics & Information Technology (MeitY), Govt. of India for conducting various Faculty/Research Scholar Development Programme. Academy has planned short-term training programs on fundamental and advanced topics in IT, Electronics & Communication, Product Design, and Manufacturing with hands-on training and project work using the latest software tools and systems. In addition, the Academy will conduct specialized/customized training programs and research promotion workshops for corporate sector & educational institutions.

### Prerequisites

Basic knowledge of semiconductor physics, electronic circuits, and familiarity with simulation or programming tools.

### Experts from Academia/Industry

### Who Should Register?

Any Interested Faculty/PhD-Scholars  
UG/PG/ & Industry Persons can register

### Registration Fee

Fees: ₹ 500/- Faculty/Research Scholar/ Students  
₹ 1000/- Industry/Others  
Note: Refund will be done in case of course cancellation only, within 20 working days

### How to make Payment

Please make the payment first using the below link  
upload the payment receipt when filling out the  
Google registration form

<https://eict.iitr.ac.in/instruction-for-payment/>

**Conference Code: EICTIITR-JFDP-NKN-04**

### Registration Link

<https://forms.gle/zkq8W5zb86HHg8Fm7>



Scan QR for  
registration

**Register before:**  
June 7, 2025

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### Objectives of the course

- To provide core and advanced knowledge of semiconductor devices and circuits.
- To explore sensor technologies and real-world applications.
- To bridge theory with practical circuit and sensor design.
- To encourage interdisciplinary and applied research.
- To train faculty in modern simulation tools and techniques.
- To enhance teaching skills in microelectronics and embedded systems.
- To promote industry-academia collaboration and innovation.

### Focus Areas

- Semiconductor device fundamentals and scaling
- Analog, digital, and mixed-signal circuit design
- MEMS, biosensors, and IoT-integrated sensors
- Circuit simulation using TCAD, SPICE, MATLAB
- Power electronics and energy systems
- Emerging trends in sensor and device integration
- Research challenges in advanced electronics

### Course Features

- 40 Hours of Lectures, Hands-on, and Pedagogy/Industry sessions.
- Lectures from Expert Speakers, Hands-on from industry/Academia experts.
- Access to learning material and video lectures
- Certificate by E&ICT Academy IIT Roorkee

### Resource Person

- Prof. Mukehsh Kumar Pathak, IIT Roorkee
- Prof. Apurv Kumar Yadav, IIT Roorkee
- Prof. Siba K Patro, IIT Roorkee
- Prof. Ashish Kothiyari, IIT Roorkee
- Prof. Sohom Chakrabarty, IIT Roorkee
- Expert from MathWorks

### Principal Coordinator

Dr. B C Sahana & Dr. Girdhar Gopal,  
NIT Patna

### Joint Principal Coordinator

- Prof. Sanjeev Manhas, IIT Roorkee
- Dr. Menak Yadav, MNIT Jaipur
- Dr Kaushik Dutta, IIITDM Jabalpur

### Reach Us:

- 📞 M.No.: 8112766397
- 📞 Landline No.: +91-1332286457
- ✉ Email: [eict@iitr.ac.in](mailto:eict@iitr.ac.in)

