



# Electronics & ICT Academy IIT Roorkee



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

# A Joint Faculty Developmet Programme

on

Semiconductor Devices, circuits & Sensors: Applications & Research Perspective

In association with









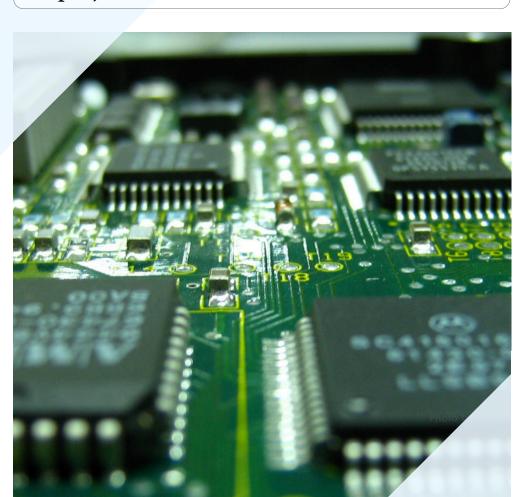


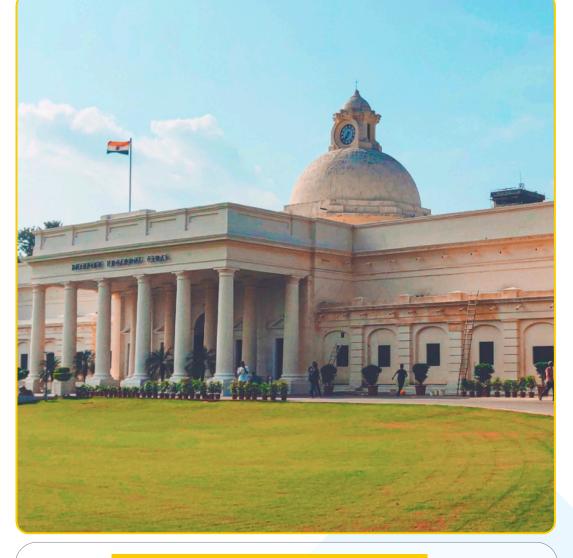
June 9 – June 16, 2025 Register Before: June 7, 2025

# 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/ Development Programme. Research Scholar 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**

#### 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

Click on icon to follow us on:







#### Objectives of the course

- To provide core and advanced knowledge of semiconductor devices and circuits.
- To explore sensor technologies and realworld 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

#### Resourse Person

- Prof. Mukehsh Kumar Pathak, IIT Roorkee
- Prof. Apurv Kumar Yadav, IIT Roorkee
- Prof. Siba K Patro, IIT Roorkee
- Prof. Ashish Kothyari, 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