About the Workshop

This Faculty Development Programme aims to provide participants with a clear understanding of secure hardware design and the threats across the hardware design lifecycle. It introduces the fundamentals of hardware security, common attack strategies, and defense mechanisms against malicious modifications. Key areas include CAD tool vulnerabilities, lifecycle attacks, hardware Trojans, and side-channel exploitation. Participants will also learn about formal verification methods, recent trends such as AI-driven security analysis, and future challenges like quantum-secure design. The programme combines theoretical sessions with practical examples and case studies, offering participants balanced exposure to both academic research and industrial practices. The scope of the programme includes:

- Overview of the importance of hardware security in modern computing systems.
- Understanding vulnerabilities in CAD tools and design environments.
- Study of hardware design lifecycle attacks and supply-chain threats.
- Exploration of hardware Trojans and their implications on system security.
- Learning about side-channel attacks and methods for their mitigation.
- Application of formal verification techniques for secure design assurance..

Targeted Participants

Faculty members, industry professionals, PG and research scholars from different disciplines such as computer science, Electronics and Communication Engineering, and Electrical Engineering backgrounds will be benefitted with this workshop.

Keynote Speakers:

Eminent speakers from IITs, NITs, IISc, Industries and other govt. Institutes.

Patron

Prof. K. Umamaheshwar Rao

(Director of NIT Rourkela)

Chairman

Prof. Bibhudatta Sahoo

(HoD, Department of CSE NIT Rourkela)

Course Contents

This workshop is intended to cover the following topics:

- Introduction to Hardware Security.
- CAD Tools and Vulnerabilities.
- Hardware Design Lifecycle Attacks.
- Hardware Trojans and Malicious Modifications.
- Side-Channel Attacks (SCA).
- Formal Verification for Hardware Security.
- Emerging Trends in Hardware Security.
- Cutting-edge Research Directions.

NATIONAL INSTITUTE OF TECHNOLOGY, ROURKELA

NATIONAL INSTITUTE OF TECHNOLOGY ROURKELA

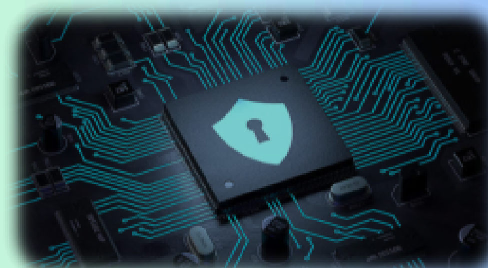
Department of Computer Science and Engineering

Organizing

One -Week Faculty Development Programme (Hybrid)

ON

Designing Secure Hardware



9th Jan 2026 to 13th Jan 2026

Sponsored By:

ISEA

Information Security Education and Awareness

सत्यमेव जयते

इलेक्ट्रॉनिकी एवं सूचना प्रौद्योगिकी मंत्रालय
MINISTRY OF ELECTRONICS AND INFORMATION TECHNOLOGY

About NIT Rourkela

National Institute of Technology (NIT) Rourkela is Institution of national importance funded by the Government of India. NIT Rourkela was established in 1961 as the Regional Engineering College (REC) Rourkela and was later upgraded to the status of an NIT in 2002. The campus covers an area of 262 hectares and provides a serene and conducive environment for academic pursuits.

QS World University Ranking placed NIT Rourkela in the rank band of 601-650 for the subject Computer Science and Information Systems. In India, it was ranked 13 among engineering colleges by the National Institution Ranking Framework (NIRF) in 2025. For details about the Institute, please visit the website at: www.nitrkl.ac.in

About CSE

Computer Science and Engineering (CSE) at NIT Rourkela is one of the most popular courses offered by the Institute. The Department has a strong faculty team with extensive academic and research experience from premier Institutes. The department offers undergraduate, postgraduate, and doctoral program in Computer Science and Engineering.

Important Dates

Registration ends	20th Dec 2025
Program dates	9th Jan 2026 - 13th Jan 2026

Registration Form :

To complete online registration, the participants need to fill out the following google form:

https://forms.gle/byfbg4uLcbvGEAE68

Registration Details

- The Faculties/PG/PhD student of NIT Rourkela are exempted from the payment of the registration fee.
- The Faculties/PG/PhD students of NIT Rourkela have to attend the course offline.

Registration Details (Fees Non-Refundable)	
Registration Type	Fees
PG/PhD Scholars	Rs. 590 (INR 500 + 18% GST)
Academician	Rs. 590 (INR 500 + 18% GST)
Industry Personal	Rs. 590 (INR 500 + 18% GST)

Total availableseats: 50 seats.

Payment Details

Account Name	CONTINUING EDUCATION NIT ROURKELA
Account No.	10138951784
Bank	State Bank of India
Branch	NIT Campus Rourkela
IFS Code	SBIN0002109

UPI ID: 01389517841@sbi
Merchant Name:
Continuing Education NIT

Program Coordinator

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Prof. Ramesh Kumar Mohapatra

Students Coordinators

Mrs. Ananya Jyoti Mahanta.

Mr. Raj Kumar.
Contact: 7571838366