



Electronics & ICT Academy IIT Roorkee



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

A Joint Faculty Development Programme on Smart Antenna Design for 6G

Jointly organised by



June 22 – July 03, 2026

Register Before: June 18, 2026

Timing: 4:00 PM to 8:00 PM

**Classes will be conducted daily,
except on 27th and 28th June, 2026**

Mode of Delivery is Online

Course Outcomes

- Understand smart antennas for 6G communication.
- Design antenna arrays and beamforming systems.
- Apply transmitarray, reflectarray, and RIS concepts.
- Analyze adaptive beamforming techniques.
- Simulate antenna designs using HFSS/CST and MATLAB.
- Develop MIMO and Massive MIMO systems.
- Design efficient antennas for next-generation wireless networks.



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 antennas, electromagnetics, wireless communication, signal processing, and MATLAB programming is preferred.

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 Register

Visit the below link for registration

<https://eict.iitr.ac.in/programs/explore-courses/Course-Detail/FPD-course/325/joint-fdp-on-smart-antenna-design-for-6g/>

Course Code: EICTIITR-JFDP-NKN-S-26-01



Scan QR for
registration

Register before:
June 18, 2026

Click on icon to follow us on:



Objectives of the course

- Understand the evolution from 1G to 6G and smart antenna concepts.
- Learn antenna arrays and beamforming techniques.
- Study transmitarray, reflectarray, metasurface, and RIS antennas.
- Explore MIMO and Massive MIMO technologies for 6G.
- Gain hands-on experience with HFSS/CST and MATLAB tools.
- Apply adaptive beamforming and signal processing methods.
- Design smart antenna systems for next-generation wireless networks.

Focus Areas

- Evolution of wireless communication from 1G to 6G.
- Fundamentals of smart antennas and antenna arrays.
- Beamforming and adaptive beamforming techniques.
- RIS, metasurface, and advanced antenna technologies.
- MIMO and Massive MIMO communication systems.
- Applications of smart antennas in 6G networks.
- Antenna simulation using HFSS/CST and MATLAB tools.

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

This certificate can be considered in alignment with other Quality Improvement Programs (QIP) as well as NBA and NAAC for recognition/credit.

Principal Coordinator

- Prof. Sanjeev Manhas, Head, ECE Dept., IIT Roorkee

Joint Principal Coordinator

- Prof. Akhilesh Mohan, ECE Dept., IIT Roorkee

Course Instructor

- Prof. Akhilesh Mohan, IIT Roorkee
- Prof. Amit Kumar Singh, IIT Patna
- Prof. Saptrishi Ghosh, IIT Indore
- Prof. Ragvendra Chaudhary, IIT Kanpur
- Prof. Somak Bhattacharya, IIT BHU
- Prof. Abhay Sah, IIT Roorkee

Reach Us:

M.No.: 9634766397

Landline No.: +91-1332286457

Email: eict@iitr.ac.in

