

Relevance of the FDP

The scientific and industrial communities are collaborating to define the roadmap for 6G, a network that will transition from "connected things" to "connected intelligence." To achieve this, new radio interfaces like Terahertz communication, intelligent reflecting surfaces, and extremely large aperture arrays are being explored.

Future radio access networks will rely on AI-enabled intelligent radio systems. These systems will dynamically upgrade hardware and software based on deep neural networks. This necessitates a strong understanding of emerging wireless technologies, Software Defined Radios (SDR), and AI for communication engineers, faculty, students, and researchers.

Targeted participants

This FDP aims to strengthen the collaboration between industry and academia. By enhancing the knowledge and expertise of faculty members, research scholars, and PG students in the evolving field of wireless technologies, it will foster networking, collaboration, and innovation..

Resource persons

Experts from reputed industries and academic institutions from both Overseas and India.

Registration

Last date for registration is 23rd Nov 2025.

There is **NO Registration Fees**.

Registration must be made through online using

<https://atalacademy.aicte.gov.in/signup>

It is necessary to maintain 80% attendance and minimum 70% score in the final assessment test to be eligible for participation certificate that will be issued by ATAL academy. .

Organising Committee

Chief Patron

Dr. K. Umamaheshwar Rao,
Director, NIT Rourkela

Patron

Dr. Swadesh Kumar Pratihari,
Professor, Dean (SR), NIT Rourkela

Chairman

Dr. Poonam Singh,
Professor & Head, Department of
Electronics and Communication
Engineering

Coordinator

Dr. Shrishailayya M. Hiremath
Assistant Professor Grade-I
Dept. of Electronics and Communication
Engineering, NIT Rourkela
Experience: 13+
Email: hiremaths@nitrkl.ac.in
Mobile:9438503621

Co-Coordinator

Dr. Ayas Kanta Swain
Assistant Professor Grade-I
Dept. of Electronics and Communication
Engineering, NIT Rourkela
Experience: 14+
Email: swaina@nitrkl.ac.in
Mobile:9437341298



AICTE Training and Learning (ATAL)

Govt. of India Sponsored

6 Days Online FDP

On

**“Future Intelligent Network
Toward 6G: 5G and beyond
with Reconfigurable SDR and
Machine Learning”**

Application No: 1748788379

FDP ID: 5014

24th Nov -29th Nov 2025



Organised

by

Department of Electronics &
Communication Engineering.
National Institute of Technology
Rourkela – 769008.
Office no:0661-2462459

ABOUT NIT ROURKELA

National Institute of Technology (NIT), Rourkela was founded as Regional Engineering College, Rourkela in 1961. It is a prestigious Institute with a reputation for excellence at both undergraduate and postgraduate levels, fostering the spirit of national integration among the students, a close interaction with industry and a strong emphasis on research, both basic and applied. Its been consistently ranked within TOP 20 engineering institutes for 4 consecutive years as per MHRD's NIRF, Govt. of India.

The city of Rourkela is a bustling industrial town, cosmopolitan by nature and is well connected to all parts of the country by road and rail. It is en-route Howrah-Mumbai main line of South-Eastern Railway. Nesting amidst greenery on all sides, NIT campus is approximately 7km from Rourkela railway station. The nearest airports are Jharsguda, Ranchi, Kolkata and Bhubaneswar.



About Department

The Department of Electronics and Communication Engineering at NIT Rourkela covers a host of subjects inclusive of electronic circuits, microprocessors, digital signal processing, image processing and computer vision, soft computing, analog communication, digital communication, mobile communication, VLSI, embedded Systems, electronic instrumentation, analytical instrumentation and many more. Faculty members of the department are working in different specializations under the groups: Communication engineering, VLSI & embedded systems, Signal & image Processing, microwave & radar engineering and Electronics & Instrumentation engineering. Many research projects are being pursued by faculty members with funding from organizations like IMPRINT, SERB, ISRO, DST, DOT, DRDO and BRFST.



FDP Objectives

- Bridge together industry and academic professionals in wireless communication, Hardware prototype and Machine learning.
- Share experiences, and initiate efforts towards highlighting open problems in the next generation wireless communication.
- Participants will learn about the recent trends in 5G and beyond, SDRs and applied AI to wireless communication systems and their fundamentals.
- Some hand-on sessions will give practical exposure to the application of AI to the wireless communication systems.

Tentative Content of FDP to be covered

- ✓ Introduction to 5G+ and Its Evolution
- ✓ Reconfigurable Software-Defined Radios (SDRs): The Building Blocks of 5G+ Machine Learning for intelligent Wireless Communication and 5G+
- ✓ Challenges and Solutions in Implementing 5G+ with SDR and ML
- ✓ 5G+ Applications and Use Cases
- ✓ Future Trends and Innovations in 5G+
- ✓ AI based ORAN