



## Advanced Communication and Antennas

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### Preamble (Electronics & ICT Academy)

Government of India had announced a National Policy on Skill Development, which has set a target of skilling 500 million people by 2022 in the domain of Electronics & IT. Under the plan scheme of "Digital India Manpower Development". MeitY has set up seven (07) Electronics and ICT Academies as a unit in 03 IITs, 03 NITs and 01 IIIT with an objective of faculty/mentor development/up gradation in the areas related to Electronics & ICT leading ultimately to improved employability of graduates/diploma holders. MNIT Jaipur has set up such an academy for providing specialized training to faculty and industry persons in the states/UTs of Rajasthan, Gujarat, Daman & Diu, Dadra Nagar Haveli.

### (A) Issues-

1. IT Hardware and Electronics Manufacturing industry- availability of properly trained, skilled and qualified manpower
2. Number of quality PhDs generated in IT / Computer Science is very low
3. In E & ICT domain- there is a very high degree of obsolescence of existing technologies and faster emergence of newer technologies

### (B) Approach-

1. A focused faculty training/updation programme for IT, Electronics and related sectors
2. Spreading up and continuous updation regarding Emerging Technology
3. Training and consultancy services for Industry
4. Design, Develop and Deliver specialized modules for specific research areas and Industry
5. Providing advice and support for technical incubation and entrepreneurial activities

An intensive two-week online certification programme is being organized jointly by IIT Guwahati, NIT Patna and MNIT Jaipur for the faculty of engineering and technological institutions. It is also open to persons from industry and doctoral students of Indian organizations. This workshop will cover fundamental and advanced topics of digital communication, fading, spread spectrum, MIMO techniques, 5G & millimeter communication, optical communication, antenna & antenna array for various applications. Eminent experts from IIT/NIT/Industry and prestigious universities would be conducting online lab and training sessions.

### Experts/Speakers-

- 1) Prof. P. K. Jain, Director, NIT Patna
- 2) Prof. Ratnajit Bhattacharjee, Professor, IIT Guwahati
- 3) Dr. Ravi Gangwar, Associate Professor, IIT(ISM) Dhanbad
- 4) Dr. Veer Singh Gangwar, Scientist-E, LRDE Bangalore
- 5) Dr. Ribhu, Assistant Professor, IIT Guwahati
- 6) Dr. Kalpana Dhaka, Assistant Professor, IIT Guwahati
- 7) Dr. Mahima Arrawatia, Assistant Professor, IIT Guwahati
- 8) Dr. Sudarshan Mukherjee, Assistant Professor, IIT Guwahati
- 9) Dr. Salil Kashyap, Assistant Professor, IIT Guwahati
- 10) Dr. Gaurav Varshney, Assistant Professor, NIT Patna
- 11) Dr. Rakesh Ranjan, Assistant Professor, NIT Patna

### Course Content:

1: Digital Communication System
2: Channel coding: block and convolutional codes
3: Multicarrier modulation and OFDM
4: Spread spectrum and DSSS
5: Diversity techniques for wireless communication
6: MIMO and Massive MIMO for wireless communication
7: 5G and Emerging millimetre wave communication systems
8: Optical communication
9: Antenna Basics
10. Antennas for WiFi, cellular communication, portable devices and 5G communication systems
11. Antenna Array

### Programme Coordinator:

Dr. Sarthak Singhal	<a href="mailto:sarthak.ece@mnit.ac.in">sarthak.ece@mnit.ac.in</a>	7376157421(M)
Dr. R. Mitharwal	<a href="mailto:rajendra.ece@mnit.ac.in">rajendra.ece@mnit.ac.in</a>	8239633089(M)

### Registration:

Registration is open to faculty, industry persons, doctoral, postgraduate and graduate students. Participants will be admitted on first-come first-served basis. Register online at-[http://www.mnit.ac.in/eict/acad\\_training\\_prg.php](http://www.mnit.ac.in/eict/acad_training_prg.php)

### Fee:

- Academic (student/faculty): 500/-, Industry/Others: 1000/-
- (A) Fee once paid will not be refunded back; it may be adjusted in future courses upon prior request.
  - (B) The fee covers online participation in the programme, comprehensive tutorials, practice notes & certification charges.
  - (C) The organizers should receive the fee through online payment gateway provided at the registration portal.
  - (D) Register here: <http://online.mnit.ac.in/eict/>

→For any other query, email us at [academy@mnit.ac.in](mailto:academy@mnit.ac.in)