

**One Week Online  
Self-Sponsored  
Short Term  
Course**

**O  
n  
Emerging Trends and Challenges in  
Communication Systems  
(11<sup>th</sup> – 15<sup>th</sup> January, 2021)**

**Organized by**

**Department of Electronics & Communication  
Engineering**



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***For Registration,***

***There is no registration Fee.*** For  
registrations please click on the  
Google form link -

<https://forms.gle/ok9c61CJXcZeXAaR6>

***E-certificate will be issued to  
participants completing the course.***

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## Experts for the Course



Dr. Abhay Kumar Sah  
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Dr. Himanshu Maurya  
IIT Allahabad



Dr. Arjun Kumar  
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Dr. Nitin Singh Singha  
NIT Delhi



Dr. Kamal Kishore  
PGIMER Chandigarh



Dr. Neeraj Rao  
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## About NIT, Jalandhar

Dr B R Ambedkar National Institute of Technology was established in the year 1987 as Regional Engineering College and was given the status of National Institute of Technology (Deemed University) by the Government of India on October 17, 2002 under the aegis of Ministry of Human Resource Development, New Delhi. Now the Ministry of Human Resource Development, Government of India has declared the Institute as “*Institute of National Importance*” under the act of Parliament-2007. The Institute has been placed amongst top 50 engineering institutions of the country as per the survey conducted by Mint-C Fore in the year 2008. The institute offers B. Tech programs in nine engineering disciplines. In addition to these programs, the institute offers M. Tech, Ph. D. programs in all Engineering disciplines.

## Location

The institute is located on Jalandhar-Amritsar NH-1 at a distance of 12 km from Jalandhar Bus Stand, 10 km from Jalandhar City Railway Station, and 16 km from Jalandhar Cantt. Railway Station, 170 km from Chandigarh, 80 km from Raja Sansi International Airport, Amritsar and 375 km from Indira Gandhi International Airport, New Delhi. It is connected to New Delhi by major Rail/Road connection.

## About the Department of ECE

The Department of Electronics & Communication Engineering, Dr. B R Ambedkar NIT Jalandhar has been offering B.Tech programme in Electronics &

Communication Engineering since 1989, M.Tech programme in Electronics & Communication Engineering (Full-Time) and VLSI Design (Full Time) from year 2007. The Department also offers Ph.D. program in various specializations, such as Biomedical Engineering, VLSI Design and Communication Systems etc. The course curriculum has been designed compatible to the existing and emerging needs of the industry. The Department has established state-of-the-art laboratories for B.Tech, M.Tech and Ph.D. research work. The Department has advanced Biomedical Signal Processing and Telemedicine Laboratory, VLSI Design Laboratory and Communication System Laboratory with sophisticated research equipments. The department has an advanced VLSI lab sponsored by Ministry of Communication and IT under SMDP-II project. In the VLSI lab Cadence, Mentor graphic, Synopsys, Magma, Coware and Xilinx software's are available for project/research work.

## Objectives of the Short Term

### Course

Research in the Communications Systems area focuses on issues regarding the efficient processing and transmission of data. Some examples of sources of data include sound, images, and sensor output signals. Signal processing algorithms deal with efficiently transforming the signals resulting from these sources into digital data streams. Communications research focuses on efficiently transmitting streams of data from one location to another. One important example of communications research is the

investigation of techniques that transmit ever increasing data rates with multiple users while consuming less radio frequency spectrum and transmitted signal power. The main objective of this course is to provide theoretical, analytical, and practical knowledge of the recent trends available in the domain of Communication Systems. During this program the scientists, academicians, and industry persons in their respective areas of expertise will discuss the current scenario on signal processing, image processing, RF design, antenna design, AI, communication networks and their applications used in current trends of research. This course gives an opportunity to get cutting edge research ideas and directions.

## Course Deliverables

- Massive MIMO Systems
- Blockchain
- Distributed Networks
- Computer Networks
- Wireless Sensor Networks
- Machine Learning
- Data Literacy
- RF Design
- Antenna Design
- RF Filters
- Remote Sensing

## Participants

Faculties of various Universities/ Institutes Professionals from Industry, Scientists and Engineers from R&D organizations, PG and PhD scholars can apply for course. The interested persons need to apply online through Google Forms (through proper channel). There is no registration fee for this course.