



Deptt. of Science and Technology, Gujarat Council on Science and Technology (GUJCOST)

Sponsored

Two-Day National Seminar

“5G Wireless Technology” on February 14-15, 2020

Organized by

Department of Electronics and Communication Engineering  
Institute of Technology, Nirma University, Ahmedabad 382 481

### National Advisory Committee

Dr. Alka Mahajan, Director IT, Nirma University  
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Shri Nilesh Desai, Asso. Director, SAC-ISRO  
Dr. Dhaval Pujara, HoD-EC, IT-NU

### Registration Fee

Students/Research scholars	Rs. 750/-
Faculty members	Rs. 1000/-
Persons from R&D and Industries	Rs. 1500/-

### How to apply?

The participants willing to attend the seminar are required to fill-up the attached registration form and send it to the address mentioned herewith. The registration form should reach to us on or before February 12, 2020. Applicants should send the DD/ Local Cheque in favour of “Institute of Technology, Nirma University”, payable at Ahmedabad.

### Send filled registration form with DD/ Local Cheque to-

Dr. Y. N. Trivedi  
Professor in EC Engineering, Institute of Technology, Nirma University, S G Highway, A'bad-382 481  
Contact: +91-79-30642404 (O),  
+91-95376 73191 (Cell),  
E-mail: yogesh.trivedi@nirmauni.ac.in

### About the Seminar

In today's era, the coexistence of human-centric and machine-type applications will lead to a large diversity of communication characteristics. Some of these applications can be supported by today's mobile broadband networks and their future evolution. However, some other applications will impose additional and very diverse requirements on mobile and wireless communication systems that the fifth generation (5G) will have to support various requirements such as stringent latency and reliability (healthcare, security, logistics, automotive applications and mission-critical control), a wide range of data rates with very high availability and reliability, Network scalability and flexibility (to support a large number of devices with very low complexity and requirements for very long battery lifetimes). Multiple access scheme is playing an important role in evolution of mobile networks. In 3G, CDMA was adopted but in 4G it is OFDMA. In line with this in 5G New Radio (NR), the New 5G Radio Access Technology is introduced to improve data rates, latency, coverage, capacity, and reliability. Thus, 5G technology is a centre point of a triangle with three vertices consisting of Enhanced Mobile broadband, massive machine type communication and ultra-reliable machine type communication.

### Programme Contents

Overview of Long Term Evolution (LTE) Release 10 onwards with major features such as Enhanced or Higher order MIMO, Heterogeneous networks (HetNets), Relaying, Coordinated Multipoint (CoMP) Transmission, Self-Organizing Network, Energy saving, Device to Device (D2D) communication, Machine to machine (M2M) communication, Data Offloading: LTE Unlicensed (LTE-U)/Licensed Assisted Access (LAA), 3-D MIMO, 5G NR overview and use-cases, narrowband IoT (NB-IOT), Vehicle to Vehicle (V2V) communication, Hybrid beamforming, MAC Layer protocol and 5G Radio Access Network (RAN), Cloud RAN, 5G IMT 2020 Technology and Spectrum, Making 5G NR mm wave a commercial reality, hybrid beamforming, Software Defined Network (SDN), massive MIMO, implementation of 5G using MATLAB and design of 5G modem, etc.

### Resource Persons

The seminar will be conducted by the resource persons from eminent industries in 5G and academicians from reputed Institutes. The following experts have given consent to be the resource person:

1. Prof. A. K. Chaturvedi, IIT Roorkee
2. Prof. S. S. Das, IIT Kharagpur
3. Dr. Sendil Dever, Ericsson
4. Mr. Devadasa Pai, Nanocell Networks
5. Mr. Niraj Nanavaty, Nokia
6. Mr. Ashutosh Agrawal, Qualcomm

### Who should apply?

The seminar will be useful to the faculty members from Engineering colleges, polytechnics, people from industries and R & D organizations, PG and Ph D scholars.