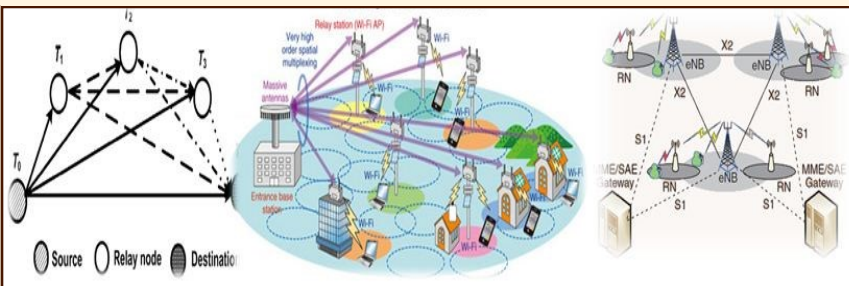


Organized by Prof. Aditya K. Jagannatham, EE Department, IIT Kanpur in association with E & C Dept., M.S. Ramaiah Institute of Technology, Bengaluru

Dec 28<sup>th</sup>-30<sup>th</sup>, 2016

## Short Course in Bengaluru on Cooperative 4G/5G MIMO Wireless Technology and Research Opportunities at IIT Kanpur



### Important Dates

#### Course Dates

Dec 28<sup>th</sup> - 30<sup>th</sup>, 2016

#### Last Date for Registration

Dec 19<sup>th</sup>, 2016

### Venue

Seminar Hall - II,  
Lecture Hall Complex -I (LHC-I),  
M.S. Ramaiah Institute of  
Technology  
Mathikere, Bengaluru-560054

### Contact

**Prof. Aditya K. Jagannatham**  
Department of  
Electrical Engineering  
IIT Kanpur  
Kanpur 208016  
UP, India

### E-mail

iitk.bengaluru@gmail.com

Relay based cooperative communication has been adopted in Long Term Evolution (LTE) Release 10 i.e., LTE-Advanced as a key technology for future generation commercial wireless communication systems. Cooperative systems have been shown to achieve significantly high communication rates in high speed broadband wireless systems due to their ability to form virtual multiple-input multiple-output (MIMO) transmit and receive arrays.

Cooperative communications is currently a very active area in industry and research, especially with the increasing emphasis on small/ Femto/ Pico cell networks. Several novel protocols such as Amplify and Forward (AF), Decode and Forward (DF), and Selective DF have been proposed for cooperative wireless communication. Further, multiple-input multiple-output (MIMO) technology together with Space-Time Block Coding (STBC) can be employed at the nodes to additionally enhance the data rates. This course will provide M.Tech/ Ph.D. students, faculty members pursuing research/ thesis and industry participants with the necessary theory and tools to boost their research in Cooperative Wireless systems, through detailed lecture/ tutorial modules together with a comprehensive MATLAB demonstration.

The instructor will be also very happy to interact with the participants and explain the **procedure regarding admission** to various programs M.S./M.Tech/Ph.D. in IIT Kanpur and also **research opportunities available in the EE Department at IIT Kanpur** in the area of Next Generation 4G/ 5G wireless communication systems. *This is the first short course being organized in the technology hub of Bengaluru to exclusively reach out to interested students at all levels (B.Tech/ M.Tech/ Ph.D.), faculty and industry members* interested in learning about the latest research in wireless technologies and also regarding admission /interaction with IIT Kanpur faculty. Participants will be provided with a course completion certificate from IIT Kanpur on completion of the course.

### Target Audience

- Ph.D scholars pursuing research in Wireless Technologies
- M.Tech/B.Tech students doing thesis/projects in Wireless.
- ECE/EEE Faculty of Engineering colleges/ universities
- Engineers from Wireless Industry and R&D Institutions