### Topics to be covered

- Introduction to 5G
- Wireless channel
- Diversity, Massive MIMO
- OFDM, Multiple access techniques
- LTE, LTE advanced
- System level simulator of LTE
- 5G Security, MAC layer
- Software defined radio, Cognitive radio
- Heterogeneous Network
- Cooperative Communication, CoMP
- Simulation Laboratory MATLAB/Simulink
- Software Defined Network
- Green communication

## **Registration Fee**

Academia: Rs. 2500; Industry: Rs. 4000; Students: Rs. 1000.

Registration fees includes Course material, lunch, transport, workshop kit etc.

Amount must be paid in **DD** drawn in favor of Coordinator, IEEE Students Branch, CVRCE, payable at Hyderabad or **Internet banking (Name:** CVR College of Engineering, IEEE Student Branch, **A/C No:** 034397210037, **IFSC:** SBIN0013150)

# **How to Apply**

Interested people may fill the prescribed registration form and mail the scanned registration form, along with scanned **DD/Internet banking ID** on or before 02-06-2016.

Limited accommodation can be arranged on payment basis.

Limited seats only; Selection procedure is on first come first served basis

### **About the Course**

Representatives of industries and academia have started to look into the technological developments toward the next generation (5G), as the rollout of 4G mobile communication networks take place. Many research projects involving infrastructure manufacturers, mobile network operators, and academic institutions, have been launched recently to set the foundations of 5G wireless communication. The number of smart phone users is already touching two billion worldwide. In order to support high QoS requirements, ITU proposed IMT- 2020, which is setting the stage for 5G wireless technologies. The 5G technologies aim to support broadband data rate more than 5 Gbps, latency less than 1 ms for high mobile users and high energy efficiency. Establishing and maintaining a successful wireless communication link among the users with simultaneously achieved all 5G objectives becomes challenging. In this short term course, we will discuss the technologies that are being proposed for candidate of 5G communication.

# **Objectives**

The course is primarily designed to provide an overview to students, professionals, scholars, faculty members of engineering colleges. This course helps to provide awareness among the participants about the different candidates of 5G wireless communication and motivates them to further explore in any of the wireless technologies domain. This course also provides few simulation sessions to measure the performance and properties of communication systems and to provide hands-on experience with the components and sub-systems employed in a digital communication system

# One Week Short Term Course

On

# 5G WIRELESS COMMUNICATION & IT'S TECHNOLOGIES

https://sites.google.com/site/rajarshim/misc/5gwireless

June 6 – 11, 2016





# Organized by

IEEE COMSOC Student Chapter
Department of Electronics &
Communication Engineering
CVR COLLEGE OF ENGINEERING

# **About the College**

The CVR College of Engineering was established in 2001, and its eleventh batch of students graduated from the college, in May 2015. The college was rated as the #1 coeducational college in pass percentage among nearly 300 colleges under JNTU, Hyderabad, for examinations held in May 2009, November 2009 and May 2010. The College has been given permanent affiliation and Autonomous status by JNTUH in 2011. The college received autonomous status from the UGC for a period of six years from 2014-15 onwards and also accredited by NAAC with 'A' grade. The college has a clearly defined goal of evolving into a hub of academic research.

### **About the Department**

The Department of Electronics and Communication Engineering is one of the departments that started at the time of inception of CVR College of Engineering in 2001 with an intake of 60. Expanding its horizon over the years, the department presently offers B Tech programs with an intake of 240 and 3 M. Tech. programs with specializations in VLSI Design, Embedded Systems and Wireless & Mobile Communications. The B. Tech. program of the department was accredited for 3 years by the NBA in the year 2007 and again accredited for another 2 years in 2013.

### **Resource Persons**

- Dr. Abhinav Kumar, IIT Hyderabad
- Dr. K. Prasad, IIIT Hyderabad
- Dr. A. Das, IIIT Hyderabad
- Dr. B. N. Bhandari, JNTU Hyderabad
- Dr. K Rama Naidu, JNTU Ananthapuramu
- Mr. D. S. Rao, DGM, Tata Communication
- Mr. N. Venkatesh, VP, Redpine Signal
- Faculties from academia and industry

Last date for registration 02-06-2016

**Programme Timings** 

9.30 am to 5.00 pm

# Venue:

Dept. of ECE, CVR College of Engineering, Ibrahimpatan, Hyderabad

www.cvr.ac.in

# **Target Audience**

- Faculty members of Engineering Colleges
- Graduate Students and Research Scholars in Wireless Communications
- Practicing Wireless System Engineers

# Committee

### **Chief Patron**

• Dr. C. V. Raghava, Chairman

# **Advisory Committee**

- Dr. C. Madhusudana Reddy, Adviser
- Dr. Nayanathara K S., Principal
- Dr. K. Lal Kishore, Dean (Research)
- Prof. P. Viswanath, HOD, ECE
- Prof. C. Venkat Rao, Coordinator IEEE SB

# **Organizing Committee**

- Dr. Humaira Nishat, ECE
- Dr. K. Lalithendra, ECE
- Mr. G. Ravi Shankar Reddy, ECE
- Mr. Sakeel Ahmed, ECE

# **Registration Form**

Name of the Applica	nt:
(in Block Letters)	
Designation	
Section/Department	
College/Company	
Gender (M/F):	
Experience: Teaching	g (if any)
Research (if any)	
Mobile Number	
Email	
Reason for attending	g the workshop:
Payment Details:	
Internet banking ID/	DD No
Date Amou	ntBank,,,,
Place: App	olicant's Signature with date

### Signature of Head of Institution with Seal

# Address for Correspondence

Dr. Rajarshi Mahapatra, Coordinator Dept. of ECE, CVR College of Engineering

Email: rajarshim@ieee.org,

Mob: 9989368854

Mr. G. Ravi Shankar Reddy: 9440468942