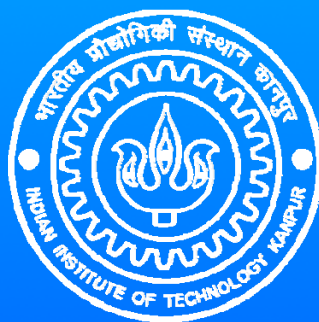


# Cognitive Radio: The Next Frontier In Wireless Communications

Nov. 23<sup>rd</sup>-25<sup>th</sup>, 2010 Organized by BSNL IITK Telecom Center of Excellence & Department of Electrical Engineering



## Important Dates

### Course Dates

23<sup>rd</sup> Nov. - 25<sup>th</sup> Nov. 2010

### Last Date for Registration

15<sup>th</sup> Oct. 2010

## Venue

*Seminar Hall  
Pioneer Batch Building  
IIT Kanpur*

## Contacts

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## Short Course on

# Cognitive Radio: The Next Frontier in Wireless Communications

Cognitive radio (CR) based systems and networks are a revolutionary new concept in wireless communications. Such systems are built on the novel software defined radio (SDR) architecture and have powerful signal processing capabilities to sense spectrum underutilization or spectral holes. The cognitive abilities in the embedded processors emulate the human brain by continuously analyzing the radio scene through an aggregation of external radio stimuli provided by the end devices. These networks can thus dynamically allocate spectrum to multiple users thereby easing network congestion. Coupled together with cutting edge wireless technologies such as OFDM, they can meet the growing wireless broadband demands of billions of users worldwide by efficiently utilizing spectrum resources in wireless networks, which are scarce and expensive.

CR is a paradigm shift in wireless communications and requires a complete redesign of each layer. In this course we will comprehensively cover several different aspects of CR systems and networks starting from a basic introduction to modern wireless networks and OFDM based Physical Layer (PHY) design. The subsequent module will provide an elaborate introduction to the CR concept and SDR transceivers. Following sessions will further specialize in several CR aspects such as Spectrum Sensing, OFDM Based CR, Spectrum Policy, CR Platforms, Testbeds, Security and IEEE 802.22 amongst others and will include a treatment of results in cutting edge research on CR.

## Target Audience

- Practicing wireless system engineers.
- Graduate students pursuing research in wireless communications.
- Teachers of government and private engineering colleges.

For more details and registration information, visit the website  
<http://www.iitk.ac.in/ee/cograd10>