

&

CMATER PROJECT, CSE Dept, Jadavpur University

ANNOUNCE

IEEE COMSOC LECTURE MEETING

A lecture meeting, organized by the Calcutta Chapter of IEEE Communications Society, in collaboration with CMATER Project of Computer Science & Engineering (CSE) Department, Jadavpur University, will be held on April 13, 2007 (details below). All interested persons are welcome to attend.

Venue: CAMATER Lecture Room, (2nd floor), Room # T-3-11,
Computer Science & Engg (CSE) Department, Jadavpur University, Kolkata-32

Date: 13th April (Friday)

Time: (4:00 – 5:00) PM

How to Combat Fading in Wireless Channels?

Aniruddha Chandra, NIT Durgapur

Abstract- Future wireless systems require high data rates with low delay and bit error rate (BER). It is difficult to support these requirements with wireless systems due to three major constraints in the system design. The traditional resources that have been used to add capacity to wireless systems are *radio bandwidth* and *transmitter power*. Unfortunately, these two resources are among the most severely limited parameters during design: radio bandwidth because of the very tight situation with regard to useful radio spectrum, and transmitter power because mobile radio and other portable devices must be small, low-power, and lightweight, which restrict their capabilities. Also, wireless systems operate over a *complex and harsh time-varying radio channel* which introduces severe multipath and shadow fading, rendering the link budget expensive for a typical BER requirement. Given this physical reality, how do we make the communication process across the wireless channel into a reliable operation? There are multiple answers which stemmed from the extensive research on radio communication and statistical modelling of wireless channels over the last 50 years. This lecture gives a brief overview of some of these techniques with special emphasis on diversity combining. Starting from different fading types and degradation thereof, different fading mitigation techniques will be addressed.



Mr. Aniruddha Chandra received B.E. degree in electronics & telecommunication engineering and M.E. degree in communication engineering from Jadavpur University in 2003 and 2005 respectively. He joined National Institute of Technology, Durgapur in 2005 as a Lecturer and currently involved in teaching regular U.G. & P.G. level courses on communication networks, coding theory etc. His research interests include diversity combining, modulation techniques,

location management and data security. Mr. Chandra has co-authored a book and published research papers in reputed journals. He was a student member of IEEE.