



# Wireless Communications

## EE 670

### Course Information

**Aditya K. Jagannatham**



# Introduction

- **Instructor: Prof. Aditya K. Jagannatham**
- Coordinates
- ACES 205D
  - Mailbox on 2nd floor ACES Building.
- e-mail: [adityaj@iitk.ac.in](mailto:adityaj@iitk.ac.in)
- Ph: 7494



## Text Books

- Fundamentals of Wireless Communication
  - David Tse and Pramod Viswanath
  - Cambridge University Press, 2005
  - <http://www.eecs.berkeley.edu/~dtse/book.html>
- Wireless Communications
  - Andrea Goldsmith
  - Cambridge University Press
- Wireless Communications: Principles and Practice, 2nd Edition
  - Theodore Rappaport
  - Prentice Hall PTR



# Points Division

	Weightage
Assignments (Theory + MATLAB)	15%
Mid-Sem	20%
Major-Quiz	20%
Term Paper	15%
End-Sem	30%



# Prereqs

- Basic idea of Digital Communications
- Probability and Stochastic Processes
- Linear Algebra, Matrices etc.
- Comfort at Math.



## Aims

- Has a theoretical and practical flavor.
- Theory behind wireless communication systems.
  - How is it different from conventional wireline based digital communications?
- Development of mathematical models and performance analysis of wireless systems.
- Intro to key wireless technologies such as CDMA, OFDM, MIMO etc.
- Intro to wireless standards such as GSM, WCDMA, LTE, to understand how everything comes together in a practical system.
- Term paper will focus on in-depth study of cutting edge wireless issues.