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Department of Electronics & Communication Engineering

Event Report

Title of the Guest Lecture	:	**Wireless Networks andOptimization Techniques**
Resource Person	:	Dr.Krishna Chaitanya, Assistant Professor, Department of Electronics and Communication Engineering, National Institute of Technology, Andhra Pradesh
Date(s) of the Guest Lecture	:	19-10-2022
Aim of the Guest Lecture	:	

Recent advances in linear and nonlinear optimization facilitate progress in many areas of communications. In wireless and mobile communications this progress provides opportunities for introducing new standards and improving existing services. Supporting multimedia traffic with end-to-end quality-of service (QoS) guarantee over multi-hop wireless networks (e.g., wireless sensor networks, mobile ad hoc networks, wireless mesh networks) is a challenging technical problem due to various factors and constraints: limited bandwidth and battery power, channel variability and user mobility, protocol and standard compatibility, fairness consideration, higher data rates, system robustness, and seamless service, to name a few. In addition, several wireless networks may be allowed to co-exist and share the same spectrum, which leads to the requirement of minimal (acceptable) interference between different networks. Optimization methods have been recognized as extremely useful techniques in helping with addressing the aforementioned challenges. Although optimization techniques are not limited by the convex optimization category, the convex optimization framework has been most successfully applied to a number of problems in wireless communications and signal processing. Over the last few years, convex optimization has found a place among the most useful techniques for algorithm design and analysis of wireless communication systems, and has become a standard engineering tool shared by a large number of researchers worldwide. The success of convex optimization techniques is largely attributed to several of their unique features. First, very efficient and fast algorithms for solving convex problems have been developed and implemented, which makes convex optimization easy to use in practical wireless communication systems. Second, convex optimization often helps with gaining insight into the optimal solution structures that reveal the very nature of the problems in wireless communications. It makes the convex optimization framework a useful research tool.

No. of Participants: **80**

Event Coordinators : 1. Dr. G. Rama Krishna, Professor, Dept. of ECE –

2. Mr. G Veerapandu, Associate Professor, Dept. of ECE

HOD-ECE

Principal

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