

Towards Universal Scheduling in Multihop Wireless Networks

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ABSTRACT:

Next generation wireless systems need to support a multitude of services with a wide range of data rates and reliability requirements. The limited battery resource at a mobile terminal coupled with the hostile multipath fading channel makes the problem of providing reliable high data rate services challenging. In this talk, we present a framework for designing universal power efficient schedulers for transmitting multimedia sources over multihop wireless networks. We study the fundamental limits on performance of any scheduler and propose low complexity scheduler classes that asymptotically approach these limits. Finally, we discuss the problem of providing end-to-end delay guarantees in a multihop wireless network.

BIOGRAPHY:

Dinesh Rajan is currently an Assistant Professor in the electrical engineering department at SMU. Dinesh received his Ph.D(2002) and MS(1999) in electrical and computer engineering from Rice University and his B.Tech (1997) from IIT, Madras, India. As a senior graduate student, he worked at Nokia Research Centers in Irving and Helsinki during summers of 1998 and 1999. His research interests are in wireless communication and networking.