Cooperative Communications

A Seminar by Mr. Dieter Duyck
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Wednesday, February 13
12:30 p.m. – 1:30 p.m.
A light lunch will be served at noon
Lecture Hall 144

Error rate performances and power savings are dramatically improved by the transmission of independent copies of the same signal, i.e., a technique referred to as transmit diversity. Spatial diversity obtained by the transmitter generally requires a MIMO (Multiple Input Multiple Output) system. However, many wireless devices have constraints in size or hardware complexity and can only have one antenna. Recently, a new network protocol called cooperative communication allows single-antenna devices in a multi-user environment to take advantage of the broadcast nature of wireless transmission. The idea is to generate a virtual multiple-antenna transmitter by using the antennas of other users to achieve the aimed diversity. This lecture presents an introduction to cooperative communications as well as a small case discussion.

This lecture is part of Electrify Your Education colloquia series sponsored by the Electrical Engineering Program.