



TOPIC	Device-to-Device Communication in 5G Wireless Networks
ORGANIZERS	Student Leadership Council and Faculty of ACIT Institute and TECHLAV Center
AREA	Communication Systems
SPEAKER	Niloofer Bahadori
DATE	Friday September 29, 2017
TIME	3-4PM (EST)
VENUE	Fort IRC 410, North Carolina A&T State University, UTSA and SIPI will be joining through video-conferencing
FEES	No Charge

SYNOPSIS

As one of the 5G cellular networks' key features, Device-to-Device (D2D) communications is envisioned to provide considerable benefits to the network performance in terms of spectrum efficiency and network offloading. In spite of bringing such promising advantages, large-scale D2D has yet to be implemented in the cellular networks. The most important technical challenges contributing to the absence of ubiquitous D2D communications are the insufficient amounts of communication bandwidth and the interference caused by the omnidirectional antenna on the neighbouring transceiver pairs. One possible solution to address the spectrum scarcity and high interference in the sub-3GHz band is to move up to the higher frequency bands, known as the millimeter wave (mmWave) band, where the vacant spectrum is abundant.

In this presentation, we will review challenges of D2D communication at higher frequencies and some possible solutions to these challenges. Moreover, we will elaborate on using stochastic geometry approaches to characterize and evaluate the performance of the D2D communication via mmWave band frequencies.

ABOUT THE SPEAKER



Niloofer Bahadori received her B. Sc. and M. Sc. in Electrical Engineering from Isfahan University. She is currently working toward her Ph.D. degree at NC A&T State University and working on the TECHLAV project to establish a reliable communication network among autonomous agents. Her research interests include fifth generation wireless network, D2D communication, and stochastic geometry applications of mmWave communication.