



PALESTRA

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Cognitive radio and network coding in wireless networks

Abstract: Cognitive radio and network coding are two promising solutions to future wireless networks. In this seminar, we present our research activities in these areas. In cognitive radio, it is important to control the transmission power of secondary users so that the interference is not harmful to the quality of service of primary users. We have proposed a flow-based power control mechanism, which maintains at maximum the ongoing flows of secondary users. In network coding, intra-flow network coding and inter-flow network coding can increase the network throughput and transmission reliability. We have integrated random linear network coding in D2D communication-based cooperative video streaming. We have also defined advanced coding conditions for dense wireless mesh networks.

Biography: Dr. Thi-Mai-Trang Nguyen is associate professor at University Pierre and Marie Curie (Paris 6) and Laboratoire d'Informatique de Paris 6 (LIP6), France. She received her BS degree in Telecommunications from HoChiMinh city University of Technology, Vietnam, in 1999, MS degree in Computer Science from University of Versailles, France, in 2000 and PhD. degree in Computer Science from University of Paris 6, France, in 2003. Her research interests include Quality of Service in the Internet, multi-homing, cognitive radio, network coding and software defined networking. She has published in major journals in networking such as IEEE Communications Magazine, IEEE Network Magazine, IEEE Transactions on Network and Service Management. She has also actively participated in technical program committees of major conferences on networking such as IEEE Wireless Communications and Networking Conference (WCNC), IEEE International Conference on Communications (ICC) and IEEE Global Communications conference (Globecom).