

Department of Electrical and Computer Engineering

Title: «Connected vehicles and their potential to alleviate cyber-physical congestion »

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Wednesday, 23th October 2013, 17:00 – 18:30
Room ΠΤΕΡ E113, Old Campus
University of Cyprus

Abstract:

In this presentation, major issues related to urban transport and Intelligent Transportation Systems are discussed. More specifically, we look at the congestion problem that arises both at a physical (i.e. traffic jam) level and the virtual space (i.e. data traffic congestion). We then present a systematic approach of solving data traffic congestion through a novel networking approach that is shown to be easy to implement in practice. In this approach, a near-future estimate of vehicle dynamics is used to build a time-expanded graph of the network that captures node dynamics. On top of this solution, a number of optimization strategies are built to address various aspects of data traffic congestion in vehicular communications. Simulation results demonstrate the great potentials of this solution in alleviating data traffic congestions.

Biography:

Panayiotis Kolios received his BEng degree in Telecommunications Engineering from King's College London in 2008. He then joined the Centre for Telecommunications Research at King's College as a PhD student, funded by an EPSRC DTA scholarship. During his doctoral training studies, he worked on energy efficient wireless networking architectures; contributing to the Mobile VCE Green Radio project. He was awarded the Ph.D. degree on January 1st, 2012. Subsequently he joined the Department of Communications and Internet Studies at the Cyprus University of Technology where he conducted research on the development of terrestrial maritime communications as a low-cost alternative (to satellite links) solution to support Internet-like services over the sea. Subsequently, he joined the Department of Computer Science (CS), University of Cyprus (UCY) as a visiting lecturer and conducted research on new adhoc networking methods for emergency scenarios. Since June 2013 he is a member of the KIOS research center at UCY where he continues his research explorations in the fascinating areas of mobile computing and mobile Internet with special focus on vehicular networking.