



Computer Networks Research Unit (CNetRU)

Main Thematic Areas:	Quality of Service/Experience in wired/wireless/mobile networks; Machine-to-Machine Communications; Sensor and Vehicular Networks, Trust Modeling and Risk Management; Intelligent Control, Multi-objective Optimization and Constraint Handling; Mobile Social Networks and Smartphones.
Contact/Lead Person(s):	Dr Chrysostomos Chrysostomou (ch.chrysostomou@frederick.ac.cy) Dr Andreas Constantinides (com.ca@frederick.ac.cy)
Team/Unit/Lab Website:	http://cnetru.frederick.ac.cy

Main Research Interests and Activities of the team/lab:

The Computer Networks Research Unit (CNetRU) has been established to support primarily the research needs of the University's Computer Systems and Networks Academic Domain Unit. CNetRU has demonstrated significant research work in the areas of both wired and mobile/wireless networks and communication systems. Specifically, the Unit performs research in networking issues, such as architectures, protocols, algorithms, and mechanisms that support the provision of Quality of Service/Experience and security. The principal aim of the research is the performance enhancement with emphasis in the development of efficient, secure, and effective networking protocols and control techniques using computational intelligence techniques, like fuzzy logic and evolutionary computation (e.g., in sensor and vehicular adhoc networks). Also, the CNetRU focuses on trust models, dynamic key management, and risk management. Moreover, the CNetRU promotes research on smartphones and mobile social networks.

The *Networks Laboratory* (NETLAB: <http://netlab.frederick.ac.cy/>) and the *Mobile Devices Laboratory* (MDL: <http://mdl.frederick.ac.cy/>) have been established under the CNetRU. These labs support the development of appropriate simulation models and of pilot applications.

Main Equipment/Facilities Available:

CNetRU research is supported by the utilization of CISCO equipment, and of Microsoft and Android systems. Specifically, the development of simulation models and pilot systems is supported by: 2 cabinet/rack-mounted CISCO routers and switches, a structured internal computer network for pilot testbeds, a number of testbed computer workstations, a cloud of smartphone devices, electronic and computing devices (e.g., xbox, Kinect sensor), web and virtual platforms, CISCO Packet Tracer, Network Simulators (NS-2, NS-3, OMNeT++, OPNET IT Guru), Wireshark (Packet analysis software). In addition, the CNetRU utilizes prototyping and proof-of-concept implementations.