

## Department of Electrical and Computer Engineering

**Title:** “Crosstalk-aware Routing Spectrum Assignment and WSS Placement in Optical Networks”

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Research Fellow at the KIOS Research and Innovation Center

**Wednesday, 31 January 2018, 17:00 – 18:00**  
Room XOD02 – 013, New Campus – University of Cyprus

**Abstract:**

Due to crosstalk-induced interactions among different connections, malicious high-power jamming signals can potentially spread widely in a transparent optical network. Moreover, due to imperfect port isolation in wavelength selective switches (WSSs), present within optical switching nodes, crosstalk also affects the quality of the transmitted signal. Therefore, it is necessary to design an optical network in a way that the effect of the crosstalk is minimized, while at the same time keeping the cost of the network low. In this talk, we present an appropriate WSS placement and crosstalk-aware Routing and Spectrum Assignment (RSA) algorithm in flexible grid optical networks, in the form of an Integer Linear Program (ILP) formulation and a heuristic algorithm analogous to vertex coloring in order to minimize the impact of the crosstalk effect.

**Biography:**

Konstantinos Manousakis received the Diploma, M.Sc. and Ph.D. degrees, all in Computer Engineering and Informatics, from the University of Patras, Greece, in 2004, 2007, and 2011, respectively. He is a Research Fellow at the KIOS Research and Innovation Center of Excellence (CoE), University of Cyprus, Nicosia, Cyprus. Since 2014, he is a Marie Curie (MC) Fellow, working on a four-years MC – Career Integration Grant (CIG) in the area of Optical Network Security. His research interests are in the area of optimization algorithms and security in optical networks.