University of Cyprus
Department of Electrical and Computer Engineering

"Emergency response missions via intelligent multi-drone autonomous operations"

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Room: ΧΩΔ02 -B107

Abstract. This talk will delve into the application of multi-drone systems for emergency response operations. We will look at how mission specifications from actual emergency response operations can be decomposed into tasks that drones can be assigned to automate certain operations and assist in the response. For a limited number of these tasks, we will look into the underlying algorithms, developed software enabling their execution and the requirement of the embedded hardware for real-time operation. Finally, complete use cases will be demonstrated to facilitate holistic understanding at system level.

Biography: Panayiotis Kolios is currently an Assistant Professor at the Computer Science Department of UCY. He 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, where he received his PhD degree in 2011. He is a member of KIOS CoE since June 2013, working on both basic and applied research on networked intelligent systems. Some examples of systems that fall into the latter category include intelligent transportation systems, autonomous aerial systems and the plethora of cyber-physical systems that arise within the IoT. Particular emphasis is given to emergency management in which natural disasters, technological faults and cyber-attacks could cause disruptions that need to be effectively handled. Tools used include graph theoretic approaches, algorithmic development, mathematical and dynamic programming, as well as combinatorial optimization.