

Department of Electrical and Computer Engineering

Title: “Thick-Film Sensors for Real-Time Monitoring of Harsh Environments”

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Room ΧΩΔ02 013, New Campus – University of Cyprus

Abstract:

Monitoring specific parameters of a system can be a major challenge when the system operates in a harsh environment. Thick-Film Technology has been proven to provide low-cost, robust and reliable sensors that can operate in such harsh environments. This talk will explain Thick-Film Technology fabrication process and how this technology can be used to develop miniaturised, multi-sensor arrays. Furthermore, the talk will describe how Thick-Film sensors can be implemented in the soil, providing the missing technology for the transition to “precision agriculture” of the farming industry, whilst it will further describe applications in other harsh environments such as concrete, engine oil and the human body.

Biography:

Marios Sophocleous is a Post-Doctoral researcher at the Holistic Electronics Research Laboratory, EMPHASIS Research Centre and the Department of Electrical and Computer Engineering. He holds a MEng degree in Mechanical Engineering and a Ph.D. from the Faculty of Engineering & Physical Sciences of the University of Southampton specialising in Mechatronics and Sustainable Energies. His Ph.D. focused on the development of chemical and physical, Thick-Film sensors for soil-quality monitoring. During the final period of his Ph.D., he simultaneously worked as a patent analyst, focusing on systematic innovation techniques, patent filing, patentability and infringement risk searches, whilst working with prestigious clients such as Bugaboo International, Tommy Tippee, Faurecia and others. After the completion of his Ph.D., he worked as the COST Action IC1401 administrator and a Researcher in the VISORSURF project. Currently, he is a Post-Doctoral Researcher, being awarded one of the 10 “Post-Doctoral Researchers–Advanced Level” scholarships of the University of Cyprus. His research focuses on the development of novel sensors and their instrumentation for online soil-quality monitoring, with the purpose to provide the missing link for the transition to automated, precision agriculture. Towards this direction, he develops customised and low-cost sensing systems that can provide vital data in real-time, allowing the implementation of automated, decision-making systems for precision agriculture and other harsh environments such as concrete. Dr. Sophocleous is an Associated Member of the IMechE and a Member of IEEE, whilst serving as an Editorial Advisory Board for Sensors & Actuators A: Physical and Microelectronics International Journals.