



University of Cyprus  
Department of Electrical and  
Computer Engineering



University of Cyprus  
Department of Biological  
Sciences

# *Joint Departmental Seminar*

*Seminar Series 2018-2019*

## **Chrysafis Andreou**

**Lecturer, Department of Electrical and Computer Engineering,  
University of Cyprus**

### **“Molecular Imaging of Cancer with Surface Enhanced Raman Scattering Nanoprobes”**

**Wednesday, 7 November 2018, at 17:00  
Building CTF 01, Room 108, Panepistimioupoli Campus**

*This seminar is open to the public*

**Abstract:** In cancer care, medical imaging provides the means to identify malignancies, plan the course of treatment, and monitor for recurrences. In the context of personalized medicine, medical imaging can be used to classify the tumor and tailor the appropriate treatment. Imaging of multiple molecular markers in the tumor microenvironment can yield more information, which can be leveraged to the benefit of each individual patient. However, existing medical imaging techniques provide limited information—only imaging anatomical features (MRI, CT, ultrasound), or a single molecular marker at lower spatial resolution (PET). In recent years, Raman imaging with surface enhanced Raman scattering nanoprobes has emerged as a promising technique for detecting microscopic tumors. In this talk, I will present my recent work on developing this imaging modality for the simultaneous detection of multiple different molecular targets, in order to maximize the information available for predictive models of personalized medicine.

**Short bio:** Dr. Chrysafis Andreou received his PhD from University of California, Santa Barbara in 2013, in Biomolecular Science and Engineering. Before that he completed a MSc in Electrical Engineering at University of Cyprus, and two BSc degrees in Physics (with Honors) and in Mathematics, at the Pennsylvania State University. An experimental researcher, Chrysafis is interested in using nanotechnology, optical imaging, and microdevices for biomedical and analytical applications. He is an expert in the field of surface enhanced Raman scattering and he has successfully used this method with microfluidic systems for analysis of biofluids, and for the medical imaging of cancer. He worked at Memorial Sloan Kettering Cancer Center as a postdoctoral researcher, and since August 2018 he is a lecturer in the department of electrical and computer engineering at the University of Cyprus.