detector seminar

SPEAKER: Virginia Spanoudaki

TITLE: **The potential and the challenges of nanostructured radiation detectors**

DATE: 13 Oct 2017, 11:00

PLACE: 40-S2-A01 - Salle Anderson

ABSTRACT

High surface-to-volume ratio structures at the nanoscale have been successfully used for the ultrasensitive detection of chemical and biological species, such as pH, antibodies, proteins, DNA, viruses and others at low concentrations. The sensitivity of such structures is attributed to their ability in modulating their conductance under the mere presence of minimal electric charge. At Harvard and MIT our efforts are now focused on building nanostructures aimed to sense the minuscule amount of charge generated by the passage of different types of radiation used in medicine and biology. Our goal is to create a new generation of fully integrated, customizable, multifunctional nanoscale imaging devices that can provide sensitive visualization of biological events and at the same time perform additional functions, such as trigger the release of drugs, in response to the imaging outcome. In this talk I will highlight our efforts towards this goal and describe the engineering challenges and physical limitations behind this endeavor.

Organised by: Alessandro Marchioro (EP-ESE)