

Wednesday, 7th September, 12.00pm

Seminar Room

Host: Prof. Aitziber L. Cortajarena

Electrochemical Biosensors for Personalized Medicine

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Biosensors are becoming increasingly important in modern healthcare. Their ability to perform measurements with minimal intervention from the user directly at the point-of-care will enable a new approach to healthcare, more personalized and more focused on prevention. To achieve this, my research focuses on developing new sensing technologies capable of performing reagent-less, quantitative measurements directly *in vivo*, and that are generalizable to the detection of many targets of very different chemistries. Such a technology will enable the convenient, real-time monitoring of drugs, hormones, metabolites, and biomarkers, which will improve diagnosis, treatment, and our understanding of metabolism, ultimately achieving fully personalized medicine. To achieve so, I use DNA aptamers and proteins as receptors in electrochemical sensing platforms. In this talk, I will showcase some of my more fundamental research on the biophysics of the interactions of biomolecules with surfaces, as well as more applied studies on the development of electrochemical biosensors and their application to personalized medicine.

