



AVVISO DI SEMINARIO

Il Prof. Kevin W. Plaxco

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Il giorno 15/06/2026 alle ore 14.00

nell'Aula Gassano

terrà un seminario dal titolo

**Molecular vital signs: recent advances in in vivo
biosensors**

Proponente: Prof.ssa Simona Ranallo



Abstract

The availability of technologies capable of tracking the levels of drugs, metabolites, and biomarkers in real time in the living body would revolutionize our understanding of health and our ability to detect and treat disease. To this end, recent years have seen the development of electrochemical aptamer-based (EAB) sensors, an in vivo molecular sensing strategy supporting seconds- to sub-second resolution, real-time drug and biomarker measurements. Composed of an electrode-bound, redox-reporter-modified aptamer that generates a signal via a binding-induced conformational change, EAB sensors are independent of the chemical reactivity of their targets and thus, unlike, the continuous glucose monitor, they are adaptable to any of a wide range of targets. Consistent with this, to date some two dozen drugs, metabolites, neurotransmitters, and proteins having been successfully measured in the veins, brains, and solid peripheral tissues of live animal models and, recently, human subjects. In this talk, I will highlight recent advances in this technology and discuss how continuous molecular monitoring is providing an unprecedented window into physiology, pharmacology, and disease while laying the foundation for a new generation of precision medicine.