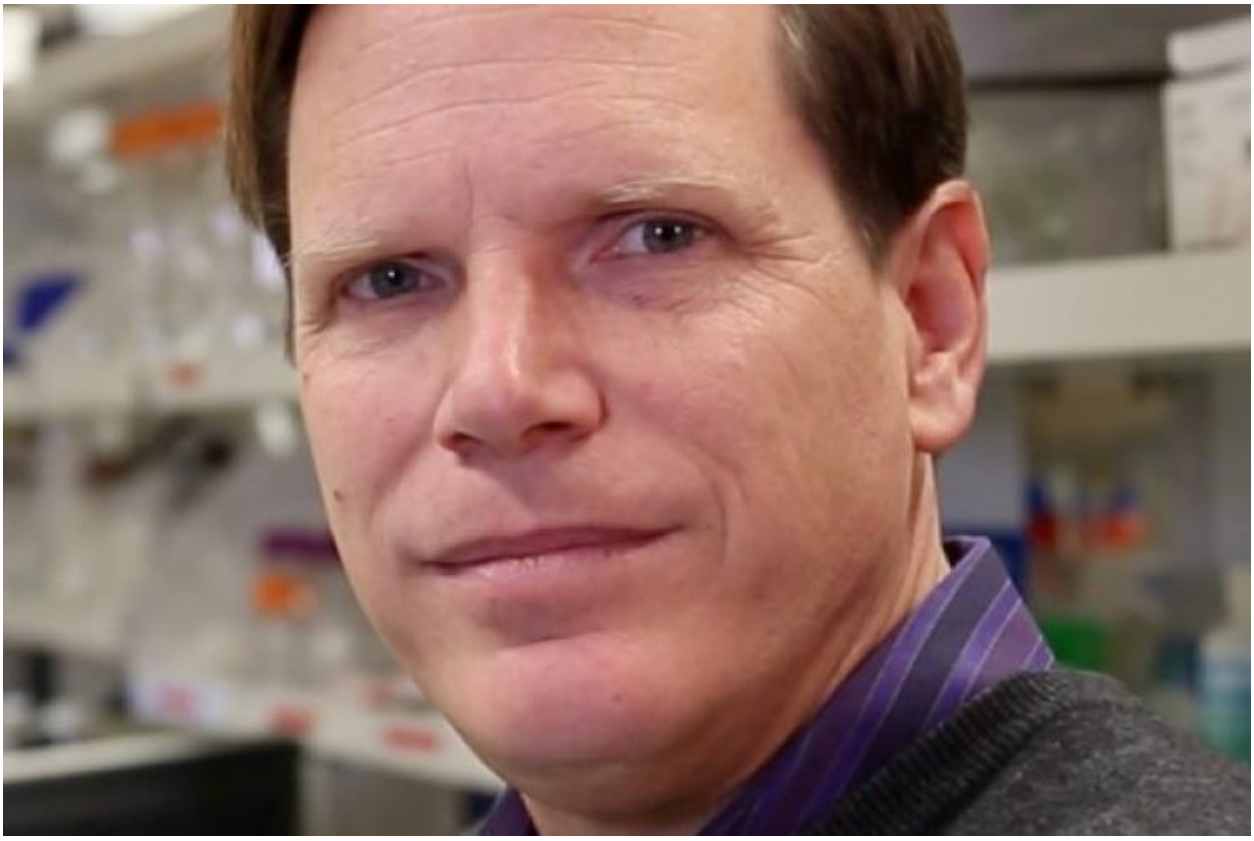
CIBBR kicks off Fall 19 Seminar series with UC Santa Barbara's Dr. Kevin Plaxco

Wednesday, September 11, 2019



DR. KEVIN PLAXCO

The first CIBBR-sponsored seminar Fall 2019 will be collaboration with the Department of Electrical and Computer Engineering and the Materials Science Program. It will feature Dr. Kevin Plaxco from University of California Santa Barbara. He will be visiting campus on Monday September 16 and will be providing a lecture from his research.

Topic: Counting molecules, dodging blood cells: continuous, real-time molecular measurements directly in the living body

When & Where: Monday Sept. 19 2019 , 4:10-5:00 pm in Kingsbury Hall S145

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. Imagine, for example, a dosing regime that, rather than relying on your watch ("take two pills twice a day"), is instead guided by second-to-second measurements of plasma drug levels wirelessly communicated to your smartphone. Such a technology would likewise provide researchers and clinicians an unprecedented window into neurology and physiology, and could even support ultra-high-precision personalized medicine in which drug dosing is optimized minute-by-minute using closed-loop feedback control. Towards this goal, we have developed a biomimetic, electrochemical sensing platform that supports the high frequency, real-time measurement of specific molecules (irrespective of their chemical reactivity) in situ in the bodies of awake, freely moving subjects.

Bio: Dr. Plaxco is a Professor at the University of California, Santa Barbara, with shared appointments between the Department of Chemistry and Biochemistry, the Department of Mechanical Engineering, and the Biomolecular Science and Engineering Graduate Program. Prof. Plaxco also serves as Associate Director of campus's Center for Bioengineering. He received his Ph.D. from Caltech and performed postdoctoral studies at Oxford and the University of Washington. Dr. Plaxco's research focus is on the physics of biomolecular folding and its engineering applications. A major aim of the group's applied research is to harness the speed and specificity of folding in the development of sensors, adaptable surfaces, and smart materials. Dr. Plaxco has co-authored more than 200 papers and a dozen patents on protein folding, protein dynamics, and folding-based sensors, and is recognized by Thomson Reuters at one of the most highly cited chemists of the prior decade. He serves on the scientific boards of a half dozen biotechnology firms, and has also written a popular science book on Astrobiology.

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