



## Electronic Point of Care Sensors for Multiplexed Monitoring of Biological Entities

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**Date:** Wednesday, October 1, 2014

**Time:** 12:30 – 1:00 p.m. Central (10:30 – 11:00 a.m. Pacific)

**Location:** 1000 MNTL at Illinois (KL 361 at UC Merced)

### Abstract:

Our world has experienced an unprecedented level of digitalization at the personal level over the past decade. Companies such as Google, Apple, and Facebook are collecting terabytes upon terabytes of diverse data with individual specific information for billions of people across the globe. However, health care data has lagged significantly behind this trend. There will be a huge opportunity over the next decade to democratize and personalize health care to tailor treatment and diagnosis approaches to individual patients. One of the critical components of this vision are diagnostic sensors that are convenient, user-friendly, accurate, and cost effective enough to dramatically increase the frequency of health diagnostic tests. This talk will describe initial efforts towards building a true electronic point-of-care sensor capable of monitoring hundreds of important biological entities, including cells, viruses, nucleic acids, and proteins, from a finger prick of blood. The use of “first degree sensing”, where the output signal is transduced from intrinsic properties of the target analyte instead of from subsequent modification steps, offers tremendous potential for simplification of diagnostic tests. These sensors may offer the only feasible approach for truly miniaturized, cost effective, and minimally invasive diagnostic techniques towards the goal of convincing billions of people around the world to actively collect increasingly critical information about their health.

### Seminar Presented by:

