

SEMINAR

Thursday, April 9, 2009

4:00pm / Refreshments at 3:45pm
1601 Elings Hall



Prof. Larry Gold

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Tales of a Thousand SLaptamers: Proteomics and Biomarker Discovery for Diagnostics

Classic aptamers were invented in 1989-1990. In the next twenty years the process of identifying aptamers was improved substantially - today non-classic aptamers (called SLaptamers) make possible some applications that cannot be achieved with monoclonal antibodies (or other antibody mimics).

In particular SomaLogic has established high content proteomics arrays in which the concentrations of nearly a thousand human proteins are measured simultaneously, using only 10 ml of plasma or serum. The limits of detection of most proteins is below 1 pM. The platform takes advantage of the fact that SLaptamers are made of nucleic acids and can be quantified by sensitive hybridization or QPCR techniques.

Using the "large-plex" array we have sought biomarkers for important human diseases for which diagnosis would be most helpful if a patient were without symptoms. This paradigm - detection of early disease - promises to improve treatment for many cancers and other diseases.