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"Time as the Fourth Dimension of Cancer Complexity"

**Friday, November 15, 2013**

**Noon - 1:00 P.M.**

Q & A to follow

*(Pizza and beverages will be served for attendees at 11:45 a.m.)*

**Harkness Auditorium**

HSC - Clinical Sciences Building, 2nd Floor
2250 Alcazar Street, Los Angeles, CA

**Abstract:**

Time as the Fourth Dimension of Cancer Complexity Tumor heterogeneity is the result of both genomic instabilities and microenvironmental adaptations under both natural evolution of the disease and treatment pressures. Heterogeneity is mostly evaluated at the cellular level considering the individual cell as the biological unit. We have established a framework of single cell analyses that can integrate high content data at the phenotypic and genotypic level. The number of biological units/single cells analyzed provides the measure of resolution of the quantified heterogeneity. The high-content analysis utilizes the high-definition circulating tumor cell (HD-CTC) assay, which provides for an enrichment-free approach to identify and characterize rare cells. We utilized the HD-CTC assay to study protein biomarker expression combined with single-nucleus sequencing for genome-wide analysis of copy number variation (CNV) in fluid and solid biopsies with sequential sampling over the course of disease evolution. Standardized sample preparation methods that enables quantitative comparisons of multiple specimen types both intra- and inter-patient as well as along the timeline of cancer evolution.

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Hosted by USC PSOC. For additional information contact: Kristina Gerber at kgerber@usc.edu