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"Tracking Immune Biomarkers and the Human Gut Microbiome:

Inflammation, Crohn's Disease, and Colon Cancer"

FRIDAY, MAY 17, 2013
NOON - 1:00 P.M.
Q & A to follow

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

HASTINGS AUDITORIUM

HEALTH SCIENCE CAMPUS
HMR – Hoffman Medical Research Building, **1st Floor**
2011 Zonal Avenue, Los Angeles, CA

ABSTRACT:

Colon Cancer is the most common cancer among Inflammatory Bowel Disease (IBD) patients and IBD is one of the three leading high-risk factors for Colon Cancer. In 2012 it was found, by using genetic sequencing of the gut microbiome, that Fusobacteria sequences were enriched in colorectal carcinomas (CRC). To explore this possible link between inflammation, gut microbes, and colon cancer I have turned my own body into a "genomic observatory." I have been tracking over 100 blood/stool biomarkers in my own body every few months for the last five years, with a focus on immune variables. Using key biomarkers and imaging technologies I diagnosed myself as having late-onset Crohn's Disease, one of the two forms of IBD. Besides obtaining one million SNPs of my human genome, I have collaborated with the J. Craig Venter Institute to metagenomically sequence my gut microbiome at three different times during a period of high inflammation. My microbiome was compared with 50 other subjects, sequenced by the NIH Human Microbiome Project--35 healthy and the remainer with IBD. I discovered that at the height of my inflammation (CRP~30), I had 8% relative abundance of Fusobacteria, 40x healthy subjects. Following antibiotic/corticosteriod therapy the Fusobacteria were reduced 90-fold. The next step is to move to high-throughput integrated personal "omics" to refine the host-microbiome dynamics. With these new tools of computationally-intensive omics, there is a hope that we will gain new insights into the pathogenisis of CRC.

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