



CENTER *for* APPLIED MOLECULAR MEDICINE



University of Southern California Physical Sciences in Oncology Center
Monthly Seminar Series

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Wyss Institute for Biologically Inspired Engineering

"Can Cancer Be Reversed by Engineering the Tumor Microenvironment?"

FRIDAY, FEBRUARY 22, 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:

This presentation will summarize studies carried out by my research group over the past thirty years that are based on the belief that cancer is a disease of developmental control, and that the production of cancer stem cells, epithelial-mesenchymal transitions, angiogenesis and unrestrained cell growth that drive tumor formation and metastatic progression result from abnormal alterations of the tissue microenvironment that feed back to influence gene expression. This view is supported by the finding that cancer cell growth, differentiation and apoptosis can be influenced by altering non-genetic environmental factors, such as extracellular matrix and mechanical forces, and by theoretical and experimental studies which suggest that regulatory stimuli must simultaneously perturb multiple genes in the genome-wide gene regulatory network to induce cell fate switching. The lecture will review this work, and present more recent experimental findings that support the possibility of developing cancer-normalizing therapeutics.

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