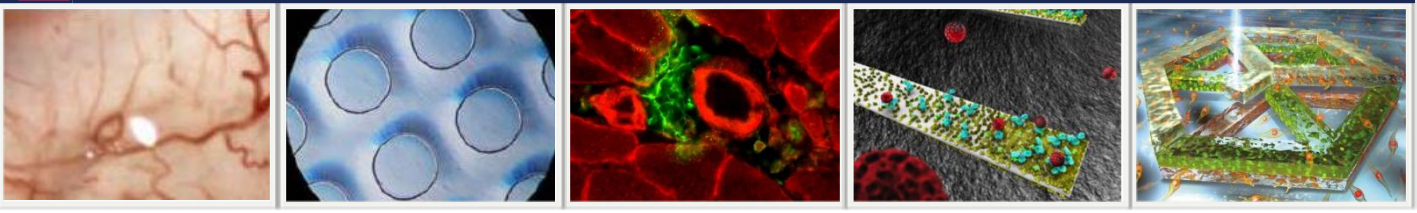
BioNanotechnology Seminar Series

Spring 2013



Combining Three-dimensional Cell Culture Models and Chemical Imaging for Understanding Fibroblast-epithelial Interactions During Early Breast Cancer Progression

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Sarah is a PhD student in the Department of Bioengineering at the University of Illinois at Urbana-Champaign

Date: **Tuesday, February 12, 2013**
Time: **12:30 – 1:00 p.m. CST (10:30 – 11:00 a.m. PST)**
Location: **1000 MNTL at Illinois (KL 361 at UC Merced)**

Abstract:

Carcinomas, including skin, breast, prostate, lung, and colon cancers, comprise the most common types of cancer in the United States. The tumor microenvironment, or stroma, plays a significant role in regulating the progression of confined carcinomas. Many stromal cell types have been implicated in disrupting tissue homeostasis and tumor progression. We have developed a three-dimensional cell culture model to investigate how fibroblasts in particular influence epithelial proliferation and invasion. We also use Fourier Transform infrared (FT-IR) spectroscopic imaging to correlate label-free chemical signatures with cancerous phenotypes in cell culture and tissue. By co-culturing human mammary fibroblasts with normal and cancerous mammary epithelial cells, we can begin to understand the paracrine interactions involved in controlling early breast cancer progression.

Seminar Presented by:

Center for Cellular Mechanics
University of Illinois at Urbana-Champaign

IGERT Integrative Graduate Education and Research Traineeship
Cellular and Molecular Mechanics and BioNanotechnology

M-CNTC NCI Alliance for Nanotechnology in Cancer
Midwest Cancer Nanotechnology Training Center

CNST University of Illinois Center for Nanoscale Science and Technology