

# Center for Theoretical Biological Physics



**SEMINAR**

## “Modeling Invasion of Brain Tissue by Glioblastoma Cells: ECM Alignment and Motility”



**L. M. Sander, PhD**

Physics and Complex Systems  
University of Michigan

**Tuesday, April 9, 2013**

12:30 - 1:30 PM

BRC, 10<sup>th</sup> Floor, Rm. 1060 A/B

**Abstract:** A key stage in the development of highly malignant brain tumors (Glioblastoma Multiforme) is invasion of normal brain tissue by motile cells moving through a crowded, complex environment.

Evidence from in vitro experiments suggests the cell motion is accompanied by considerable deformation and alignment of the extra-cellular matrix (ECM) of the brain. In the case of breast cancer, alignment effects of this sort have been seen in vivo. We have modeled features of this system including stress confinement in the non-linear elasticity of the ECM and contact guidance of the cell motion.