Abstract Submitted
for the MAR10 Meeting of
The American Physical Society

Probing non-Newtonian cell-matrix interactions with a confocal rheometer RYAN MCALLISTER, Georgetown Univeristy, RICHARD AREVALO, DANIEL KOCH, JEFFREY URBACH, SUSETTE MUELLER, DANIEL BLAIR, Georgetown University — The importance of cell mechanotransduction with the extra cellular matrix (ECM) has become increasingly clear. ECM stiffness affects cell behavior and differentiation, and simultaneously the cell affects the stiffness of the ECM. For example, tumorigenesis and metastatic invasiveness of cancer cells are associated with cell-induced changes in the ECM. Meanwhile, the ECM is a complicated environment where the cells interact with both a variety of proteins and the non-Newtonian network stiffness. In this talk we present preliminary results using a live-cell adapted confocal rheometer to probe the activity and response of human cell-line cells within a type 1 collagen network.

Ryan McAllister
Georgetown Univeristy

Date submitted: 20 Nov 2009 Electronic form version 1.4