Abstract Submitted
for the MAR07 Meeting of
The American Physical Society

Stochastic model of cell rearrangements in convergent extension of ascidian notochord[1] SHARON LUBKIN, North Carolina State University, TRACY BACKES, Harvey Mudd College, RUSSELL LATTERMAN, Arizona State University, STEPHEN SMALL, Norfolk State University — We present a discrete stochastic cell based model of convergent extension of the ascidian notochord. Our work derives from research that clarifies the coupling of invagination and convergent extension in ascidian notochord morphogenesis (Odell and Munro, 2002). We have tested the roles of cell-cell adhesion, cell-extracellular matrix adhesion, random motion, and extension of individual cells, as well as the presence or absence of various tissue types, and determined which factors are necessary and/or sufficient for convergent extension.

[1]This work was partially supported by the National Science Foundation

Sharon Lubkin
North Carolina State University

Date submitted: 20 Nov 2006 Electronic form version 1.4