

Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Cell Proliferation on Planar and Curved Substrates¹ MICHELLE GAINES, Georgia Institute of Technology, YA WEN CHANG, Texas Tech University, RICARDO CRUZ, ALEXANDROS FRAGKOPOULOS, ANDRES GARCIA, ALBERTO FERNANDEZ-NIEVES, Georgia Institute of Technology — Aberrant epithelial collective cell growth is one of the major challenges to be addressed in order to treat diseases such as cancer and organ fibrosis. The conditions of the extracellular microenvironment, properties of the cells' cytoskeleton, and interfacial properties of the substratum (the surface in contact with epithelial cells) have a significant influence on the migratory behavior of epithelial cells, cell proliferation and migration. This work focuses on understanding the impact the substratum curvature has on cell behavior. We focus on cell proliferation first and study MDCK cells on both planar and curved hydrogel substrates. The curved hydrogels are based on polyacrylamide and have toroidal shape, with tube radius ~ 200 μm and an aspect ratio in the range between 2 and 9. Proliferation is measured using the Click-it EDU assay (Invitrogen), which measures cells that are synthesizing DNA.

¹Funding Source is Childrens Healthcare of Atlanta

Michelle Gaines
Georgia Institute of Technology

Date submitted: 10 Nov 2016

Electronic form version 1.4