

1116-VC-2875      **Nathan McClanahan\*** (mcclanah@math.montana.edu). *Deformation of a Biofilm Using an Energy Based Model*. Preliminary report.

Biofilms are attached microbial communities made up of many different components. Biofilms are found throughout nature as well as in industrial and medical settings. Understanding how these biofilms spread is important in helping the prevention and treatment of diseases and to prevent contamination. We created an energy based model of a flow channel using partial differential equations, first in 1D and later in 2D. We solved this system using a finite difference method in C++. Doing this would allow us to look more closely at why some parts of the biofilm are washed away under flow while others stay attached to a surface. (Received September 22, 2015)