Christopher McFadden

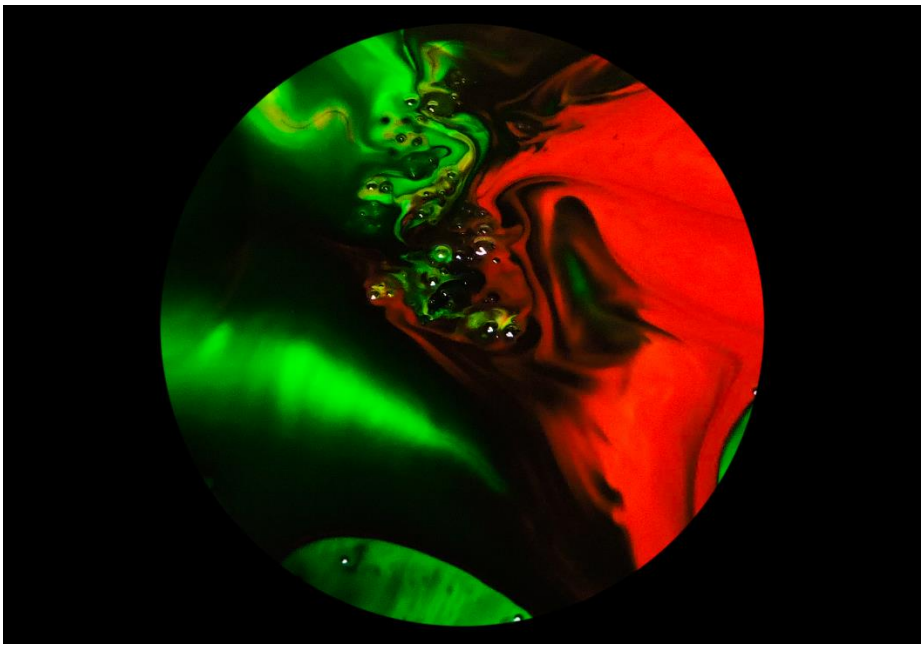
MCEN 4151-001

Team Assignment #3

Collaborators: Chad Sloan, Steven Li, and Will Tse

11/17/18

Milk, Soap, and Color



We set up in the idea forge study area with a gallon of milk, 3 different colors of food dye and a bottle of Dawn soap. We would first pour about a half cup of milk into a paper bowl. Then we would add the food dye in different patterns on the milks surface. Then one person in the group would carefully add a small drop of soap to the mixture while the others photographed the reaction.

The purpose of this experiment was to capture the dispersion of color after adding soap to a mixture of food dye and milk. The physics driving this motion is surface tension. The difference in surface tension between the milk and food dye. This surface

tension keeps the food dye from diluting into the milk but when a drop of soap is added the food dyes surface tension pulls it toward the edges of the container.

I captured this image on my camera which is a Nikon Coolpix 650D. The settings were on automatic with a reduced ISO setting. It was taken from above the bowl at approximately a 30 degree angle and about 18 inches from the surface of the milk. In post processing I put a black boarder around it to eliminate the paper bowl from the image, increased the contrast and brightened up the colors a bit.