



Team Second Project Report

Sung Moon (with help of Cyron, Galen, Hanwen, and Kevin) | MCEN 4151 | 2018-05-05

In our second Team image assignment, Team second project, the purpose was to get together with your team to take and help to take a picture of fluids of our choice that clearly exhibits both aesthetics and phenomena that is being experimented. The Team Second project allowed the students to expend their artistically developed interests and physics knowledges furthermore than the other Project by adding more hands on deck. For my project, all of my team and I came together to think of cool fluid tricks to perform using ferrofluid and decided to just mess around with the ferrofluid. As a novice to the photographic field, my goal in this project was to have a picture that vividly demonstrates what is going on in the picture and some aesthetical meaning. With the image itself, its intent was to explicitly illustrate the non-Newtonian fluids mechanics. All of my team, Cyron, Galen, Hanwen, and Kevin, helped each other in this project.

In my image, Cyron help us with the ferrofluid supply. Ferrofluid is a fluid that turns into powerfully magnetized fluid when there is a magnetic field. They respond to external magnetic field since they are “colloidal suspensions of magnetic nanoparticles” (Ferrofluid).

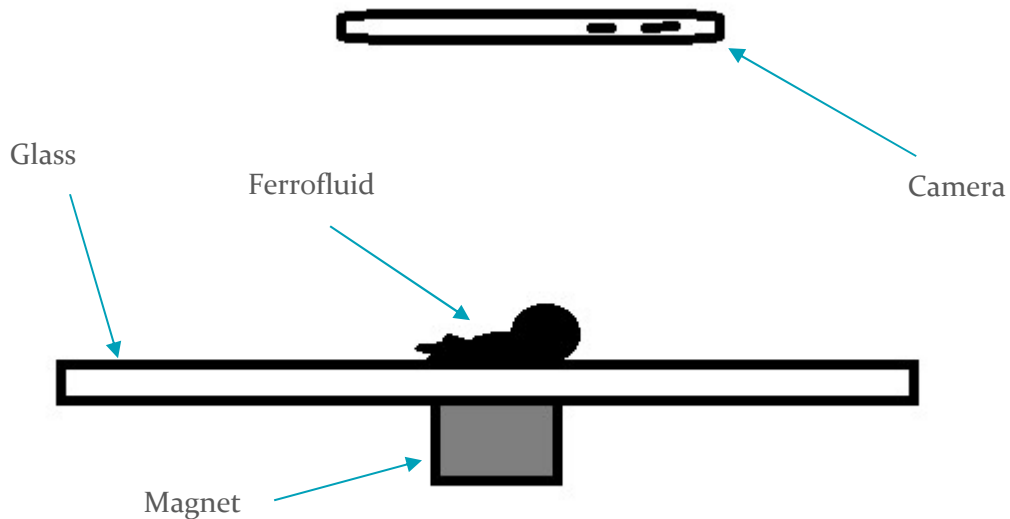


Figure 1: Experimental Setup

As one can see in the Figure 1, there were no special set up for our experiment. Our team's idea was pretty much simple. We just wanted to play around with ferrofluids and see what kind of scenery we could get. We were very successful with our open ended approach.

We poured little bit of ferrofluid on top of a big glass sheet. After pouring the ferrofluid, we had some magnets underneath the glass sheet and just drew on a glass sheet with the ferrofluid. We've tried this several times and got my image. We also tried putting ferrofluid in between two glass sheets. That experiment had beautiful effect when we pulled two glass sheets apart, but I thought that the effect didn't really show the characteristics of ferrofluids. As I took a picture with my iPhone, my iPhone camera was approximately 8 in away from the ferrofluid.

From the original image, I really could not see the full magnetic reaction of ferrofluid. What I decide to do was to adjust the contrast and brightness of the image and save as png file in Photoshop. I thought exhibiting full glass plate was very useless and distractive to the audience.

Citation

Ferrofluid. (n.d.). Retrieved from <https://www.aps.org/about/physics-images/archive/ferrofluid.cfm>

Ferrofluid. (2018, May 04). Retrieved from <https://en.wikipedia.org/wiki/Ferrofluid>