

Corey Davis

Flow Visualization

“Getting Wet” Report

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For this first assignment, I tried to artistically represent the phenomena of surface tension found in small droplets of water. I have always noticed this characteristic of water in nature when the dew forms on blades of grass or on a leaf. These types of droplets are formed when intermolecular forces create surface tension which forces the water drops to bead up and form small spheres. This shape is from the inner cohesive force inside the droplet.

The flow apparatus used in this image was really quite simple. I placed a blank CD under my light source, and then proceeded to drop room temperature water on the surface of the CD using an eye drop bottle that I refilled. I evenly spaced out each drop throughout the surface of the CD as to give some depth and a more interesting photograph. This photo was really all about lighting and creating the most vivid colors from the CD. It was important to rotate the light source to my liking.

I photographed this image indoor so I wouldn't have any issues with wind, dust, or light pollution from other sources. In this particular image I used two primary light sources. The first is a halogen light pointed down at about a 45° angle about a foot above the CD. The second is a high powered LED flashlight which I waved across the surface of the CD when the camera was exposing the shot.

The size of the field of view is fairly small being at about 2 1/2 inches from the visualization. The distance from the object to my lens was 5 inches. I chose to use a macro lens to get the most detail out of the set up as possible. The lens is a AF Micro Nikkor 105mm f/2.8. I shot with a DSLR, a Nikon D300. The final image was cropped down to 1772 x 1773 pixels. The original was shot at 4288 x 2848 pixels. My shutter speed was set to 1/400 sec. The aperture value was f/3.5 and I set my ISO to 400. The only adjustments done to the image was cropping and some slight modifications to the levels to show truer color.

This image shows how beautiful such a simple and often taken for granted aspect of our natural world can be. I like this image because of how the water reflects the colors from the CD. The drops look like marbles because of how perfectly round they are. I think the depth of field really helps this image too. This image really shows off the liquid's surface tension in a unique way. I was almost thinking about applying a nice car wax to the surface of the CD before dropping water onto it. I think this would cause even more “bead up”.

I really enjoyed this first assignment. It forced me to take a different look at photography. I would like to explore macro photography with flow visualization more throughout this class.