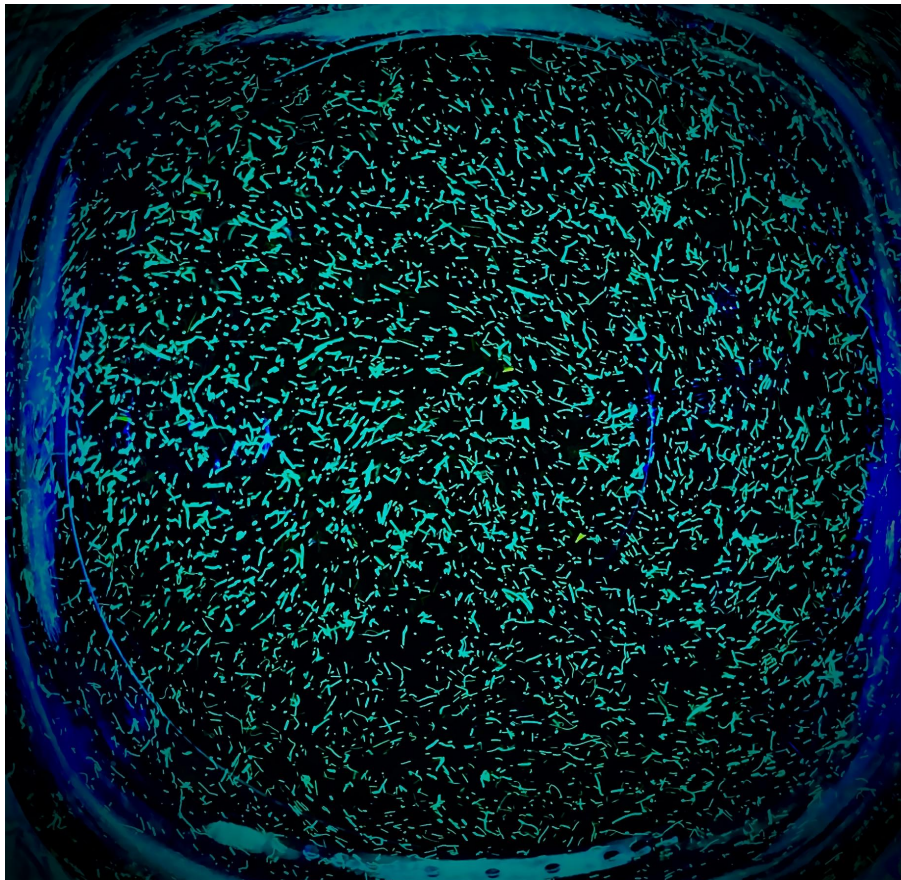


Image/Video #2 Report

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For my second image assignment, my initial intent was to capture a vortex effect by creating a vector field with luminescent material. Motivation for this experiment came from my passion for fly fishing. I am a huge fly fishing nerd and love to spend my free time tying flies with a variety of materials. While tying a brightly colored imitation, I found that a certain material showed up very well under UV light and decided to use small pieces of that material to act as vector lines in a liquid. Due to the physics of the material used to visualize this phenomenon creating a vortex proved very difficult to capture neatly. Many of the individual pieces would gather and create masses of tangled pieces making it difficult to visualize the pattern in the vortex. I ultimately decided to just create turbulent flow and capture the beauty of the suspended particles and the different colors they reflected under an ultraviolet light.

While the initial intent for this experiment was to create a vector field of a vortex in a liquid I ended up just trying to capture interesting colors and patterns. I created disorder in my experiment by mixing the solution of a water and material randomly to create an even distribution. To create this distribution of suspended particles I mixed the solution in circles while constantly varying the direction. After I had mixed the solution in a random manner, the only force acting on the liquid was the friction force from the walls of the container. This method evenly distributed the material throughout the water and allowed me to capture a beautiful distribution.

To capture this photo I used a 32oz regular mouth mason jar as the vessel to hold the solution of liquid and suspended material. The light used was a small handheld ultraviolet flashlight. The jar with the solution was placed on a dark countertop and lit by the light from the bottom of the jar shining parallel to the countertop. Since I used a small light source, I had to wrap the mason jar in tin foil to reflect as much light on the material suspended in the water. The material I used is called Extra Select Craft Fur fly tying material made by Hairline. The specific color of the material is called chartreuse and was the only color available that reflected UV light. The material was cut to approximately two millimeters in length and soaked in water for at least ten minutes prior to the first experiment. Even after soaking the material some pieces wanted to float on top of the water instead of being suspended which made each photo look messy and hard to visualize. The solution was mixed and floating material was removed several times to achieve the final picture.

The camera used to take the photo was a Canon EOS 70D DSLR with the following specifications:

Shutter speed	1/160 sec
Aperture	f/6.3
ISO	1600
Focal length	56mm

While I was unable to capture a vortex effect in the mixture I was pleasantly surprised by how interesting the distribution of suspended particles looked. I really enjoyed how well each individual particle showed in the final image but wish I could have captured what I was initially intending. After getting critiqued by my peers I would like to re-run this experiment to try and capture a vector field in a vortex. In my final image I used only about an inch of water with a high density of suspended material. For future experiments I plan on using more water with the same amount of material to try and avoid having the particles getting tangled with one another. With a lower density of suspended material I believe I could have a better chance at capturing a vector field.