Wet Your Whistle With Fire

Our class was charged with getting our feet wet in the world of fluids photography. I have always been fascinated with the way flames dance so freely and fluidly. I wanted to capture this phenomenon for my first flow visualization project though it turned out to be quite a lot more difficult than I had previously anticipated. Due to some unforeseen technical difficulties I was forced to capture the image at home with my phone camera.

On a lazy Sunday afternoon my colleague, Morgan Benninger, and I were having a few cocktails and discussing fluid flows when we came up with an idea. We started with a mixture of one-part Tropicana orange juice and one-part ethanol, or in laymen’s terms a screwdriver, in a martini glass whose high angle sides provided an appealing light distribution. We then added approximately a tablespoon of sriracha to the bottom for contrast and finally a thin layer of Walgreens brand isopropyl alcohol to the top as the accelerant. The martini glass was then placed on the stove, for safety, and a bar mat served as the black backdrop. The overhead stove lights were set to dim and there was an additional phone flashlight used for lighting in the image. The overhead fan was also turned on to create an upward flow of air that pulled the flame into a more conical shape.

After lighting the isopropyl alcohol I was amazed how well the flames were visible in the image. It was very difficult however to get the flames into focus, especially using a Samsung phone camera. However, after playing around with the placement of the glass and the angle at which I shot it from I was finally able to capture an image I was happy with. I made the choice to crop the image in post to remove the stem so that it has a more ominous floating feel to the image. Playing around with some other contrast and exposure setting really helped bring out the strike color differences between the sriracha and the ghostly blue flame.

All in all I really enjoyed this project and my choice to “play with fire”. I think the image highlights the way vapor rises as it combusts and its distinct boundary layer off the surface of the fluid. I also learned a lot in the way of photography and post processing while editing this image.