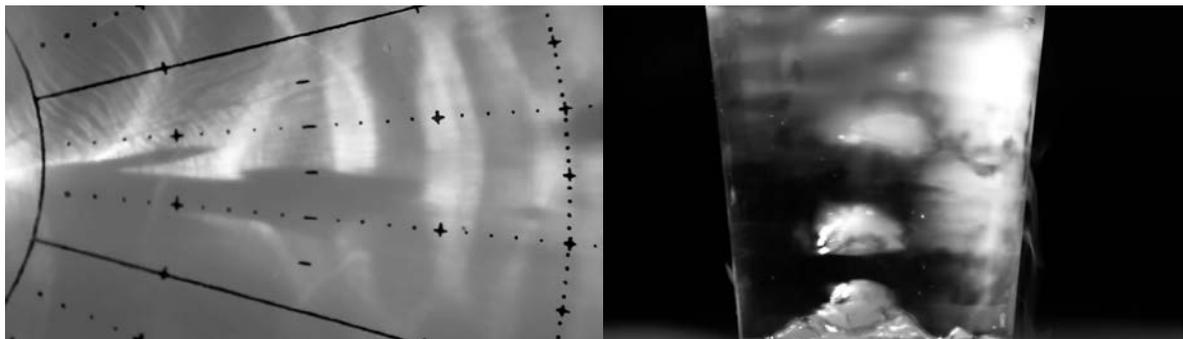
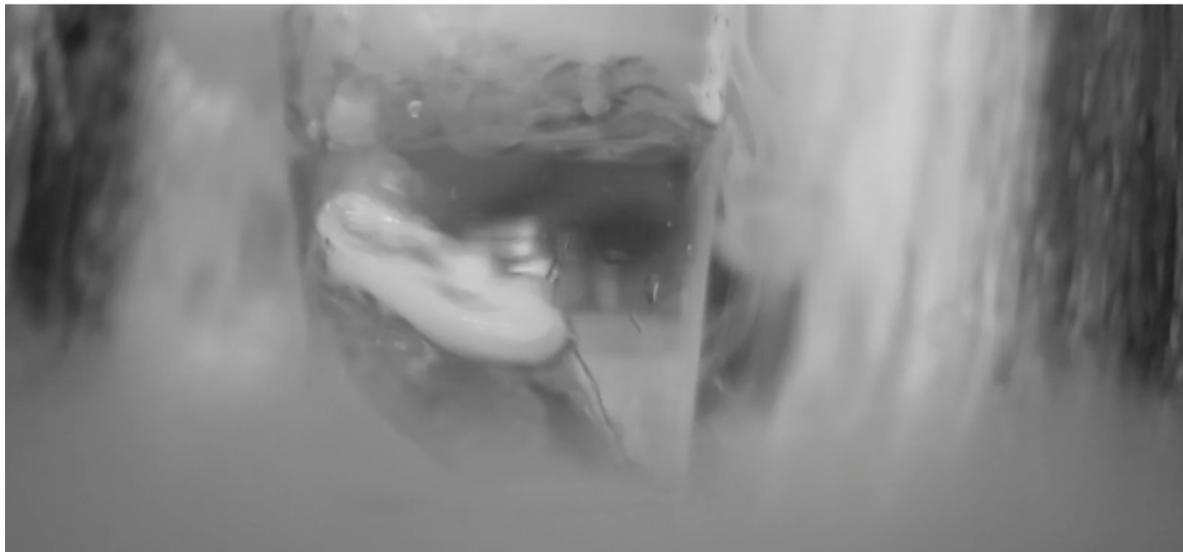
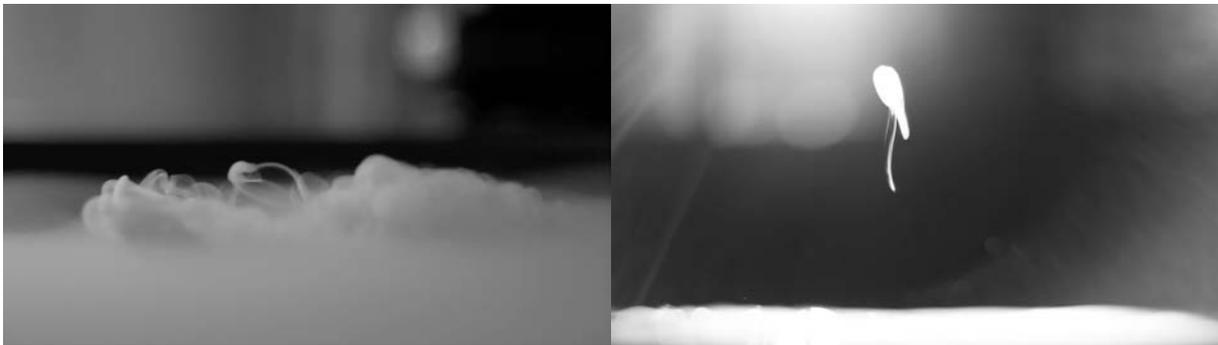


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Get Wet Report
February 13, 2014

For the first get wet assignment, I wanted to visualize the smoke that came from dry ice when submerged in water. My only previous experience using dry ice was in seventh grade where I made explosives out of 2-liter bottles with friends. One time a bottle exploded in my hand and broke my wrist in four places. This time I wanted to focus on the beautiful smoke rather than its explosive potential when CO₂ gas is released. I purchased one pound of dry ice from my local grocery store for only \$1.92. This amount of dry ice is about the size of a baseball.

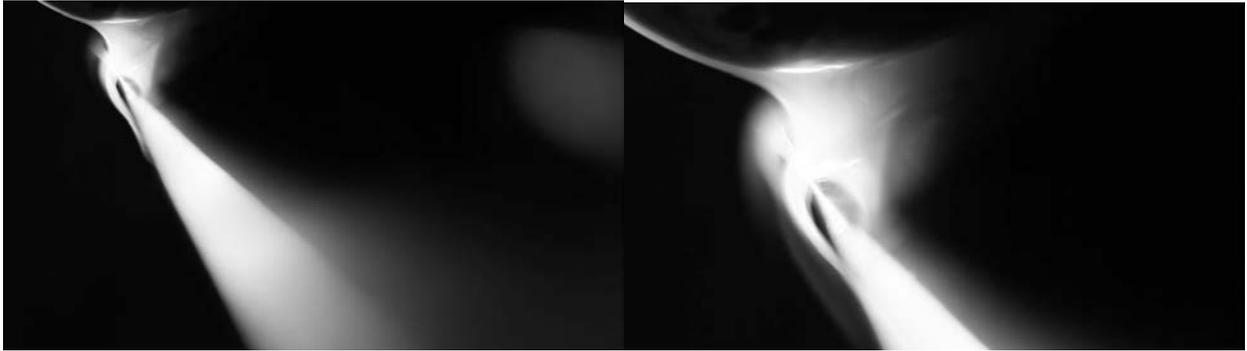


The first four shots capture half of a pound of dry ice submerged in a tall glass of water. Once placed in the water, the dry ice immediately starts producing bubbles that float to the top of the water and then release CO₂ in gas form. This process of the dry ice going from solid to gas is referred to as sublimation. The following shots capture dry ice in a large bowl with a diameter of 1.5 feet. The larger bowl with more water created a wider surface for the smoke to settle on top and then overflow.



I visualized the smoke by filming the surface of the bowl, mostly using handheld shots and occasionally resting the camera on my kitchen counter. There is a large window facing west in my kitchen which allowed a lot of direct afternoon sunlight into the room and shine directly on the bowl. This can be seen in a few shots as a bright rectangle. I faced my camera towards the sun so it underexposed the background and properly exposed the smoke. There are light rays that can be seen in a few shots, but I made sure to hold the camera steady to avoid light flares.

I used a Canon 5D Mark ii to capture video at 29.97 fps and a fixed 50mm lens. The aperture was f/1.4 with a shutter speed of 1/800 and an ISO of 160. When I was not shooting into the sun, I set the ISO to 800. The field of view ranges from 1 to 1.5 feet and the distance from the camera to the smoke was always 1.5 feet. The size of the image is 1080X1920 pixels. I used Final Cut X to edit the video and exported it with a H.264 MPEG-4 codec. Two films were exported, one with the original colors preserved and another completely desaturated, making the image black and white. The only other processing technique used was magnifying the shot of the the smoke flowing the edge of my counter, creating an unusual circle. The image was stretched to twice its original size to create an extreme close-up.



The video reveals the smoke from dry ice sublimation, transition from a solid to gas without ever being a liquid. I like how the smoke makes mesmerizing patterns, even in its shadows. The sublimation is sublime! I think the fluid physics were captured well in real time, but it may have been more interesting and revealing in slow motion. I accomplished my goal of capturing the smoke but I would like to try new environments and larger amounts of dry ice in the future.