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Film 4200 Flow Vis
Prof. Hertzberg
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Team Project 3 Report

For our final group project we decided to use the flume water channel available to engineering students. Located in the basement of the Integrated Teaching and Learning Lab, the device is used to measure flow rate of a liquid, typically and in our case water. We set the flow to run at a constant current and proceeded to drop food coloring into the head of the current to watch it become integrated with the rest of the water supply. We also added a wall that forced the water into a small gap. This wall also created an interesting and unpredicted effect. When we broke the surface tension of the water to reach in and adjust the wall, an air bubble became trapped in-between the surface of the water and the bottom of the wall, forcing the water through an even smaller gap, which is forced through a small turbine created by a slight build up of pressure. The flowing drops of dye thus were compressed and combined in the small surface area of water that passes through the gap.

Using the HD video function on Mike's camera, shooting at a basic 720 x 1080 resolution I was able to capture several videos and edit them together. The clips are a basic break down of the entire process: from dropping of the ink droplets, the beginning rate of flow exhibited by the moving drops, encountering the wall, passing through the gap, and exiting the torrent at the base. The videos were all taken on the morning of April 20th, 2011.